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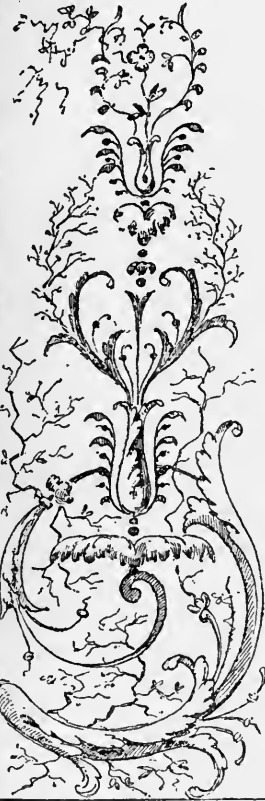
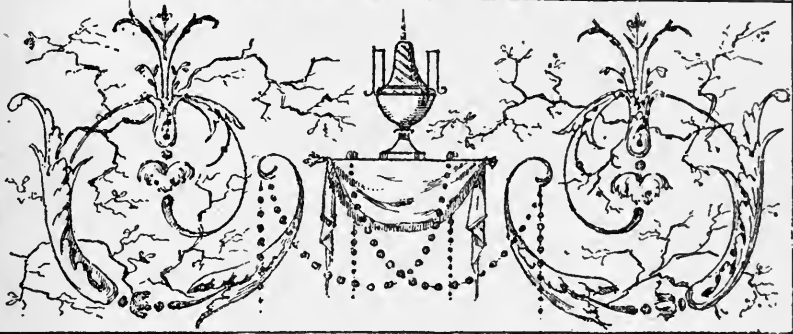
OF

THE ARCHITECTURAL RECORD.

VOLUME III.

JULY, 1893—JULY, 1894.

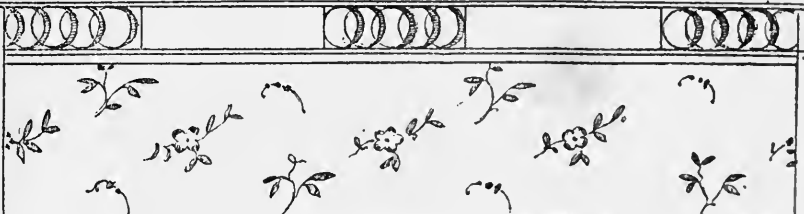
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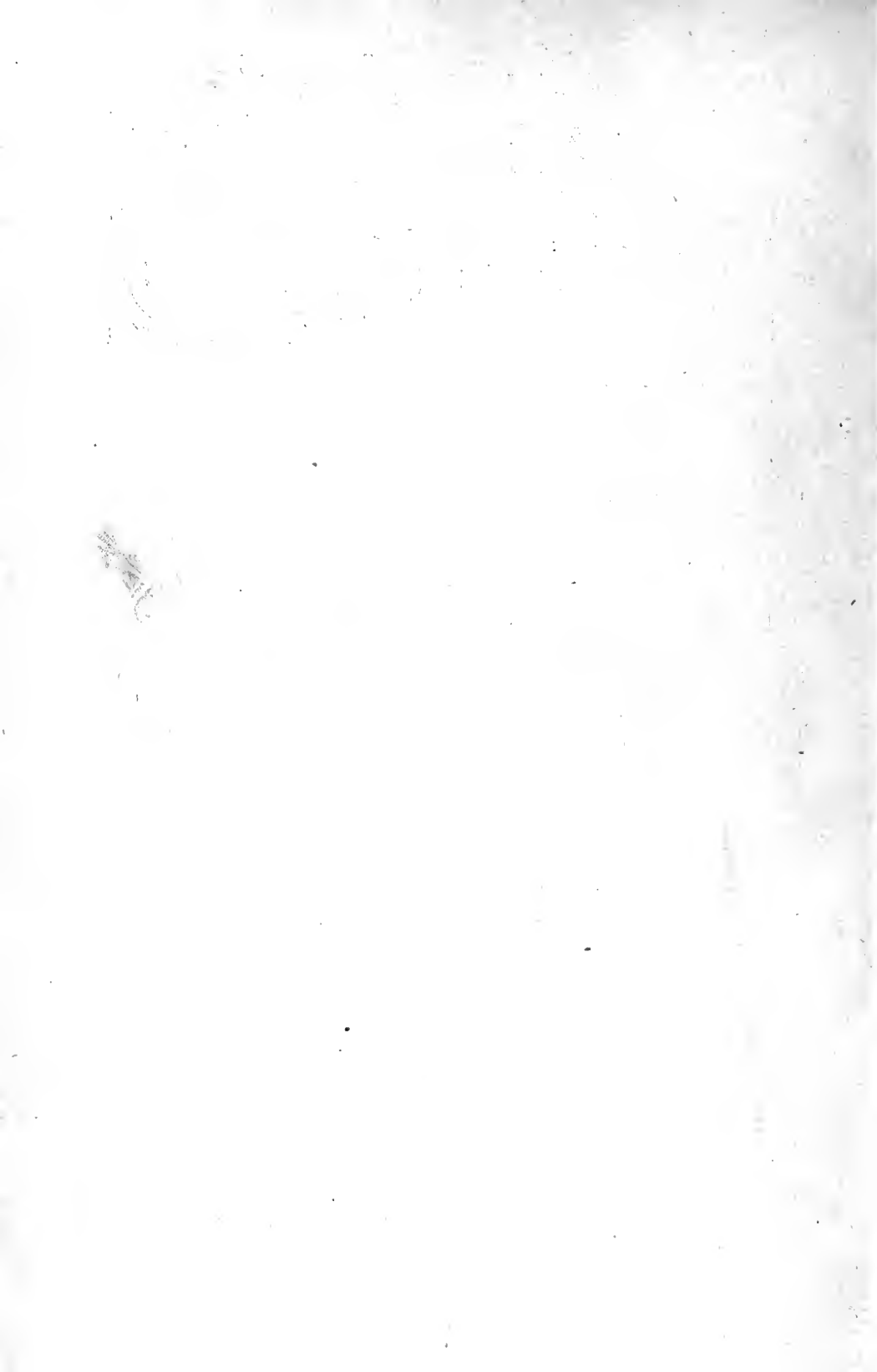


HISTORICAL EXAMPLES
OF

OLD COLONIAL

IN
THE SOUTH.







SUGGESTED COLOR SCHEME FOR BED ROOM.

The
Architectural Record.

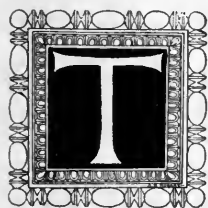
VOL. III.

JULY-SEPTEMBER, 1893.

No. 1.

THE CHURCH OF THE SACRED HEART AT MONTMARTRE.

ITS ORIGIN AND CONSTRUCTION.



OWARDS the end of the year 870, when France appeared exhausted and ready to succumb under the weight of the dreadful misfortunes which were befalling her, two

ardent patriots and earnest Christians made a vow to erect a monument to the glory of the Sacred Heart of Jesus, in order to obtain the divine protection for their unfortunate country.

In spite of the unfavorable ending of the war, they did not consider themselves released from their vow and continued to intercede for their native land. Their prayers were answered, for, though France was vanquished, we cannot but recognize the intervention of the Almighty in her wonderful recovery from so many disasters.

The opponents of this National monument have declared that it had a political origin, which is a great mistake on their part; its inception is entirely due to the irresistible impulse which urges Man ever to seek Him whose power is infinite.

From the beginning, the Work has not changed, either in object or sentiment, and the great majority of believers have rallied round it.

It has been remarked that these same believers are far from numerous in certain French political parties; but whose fault is it? Have these parties done

anything to attract or keep believers? Some of them, on the contrary, have done all in their power to drive them away.

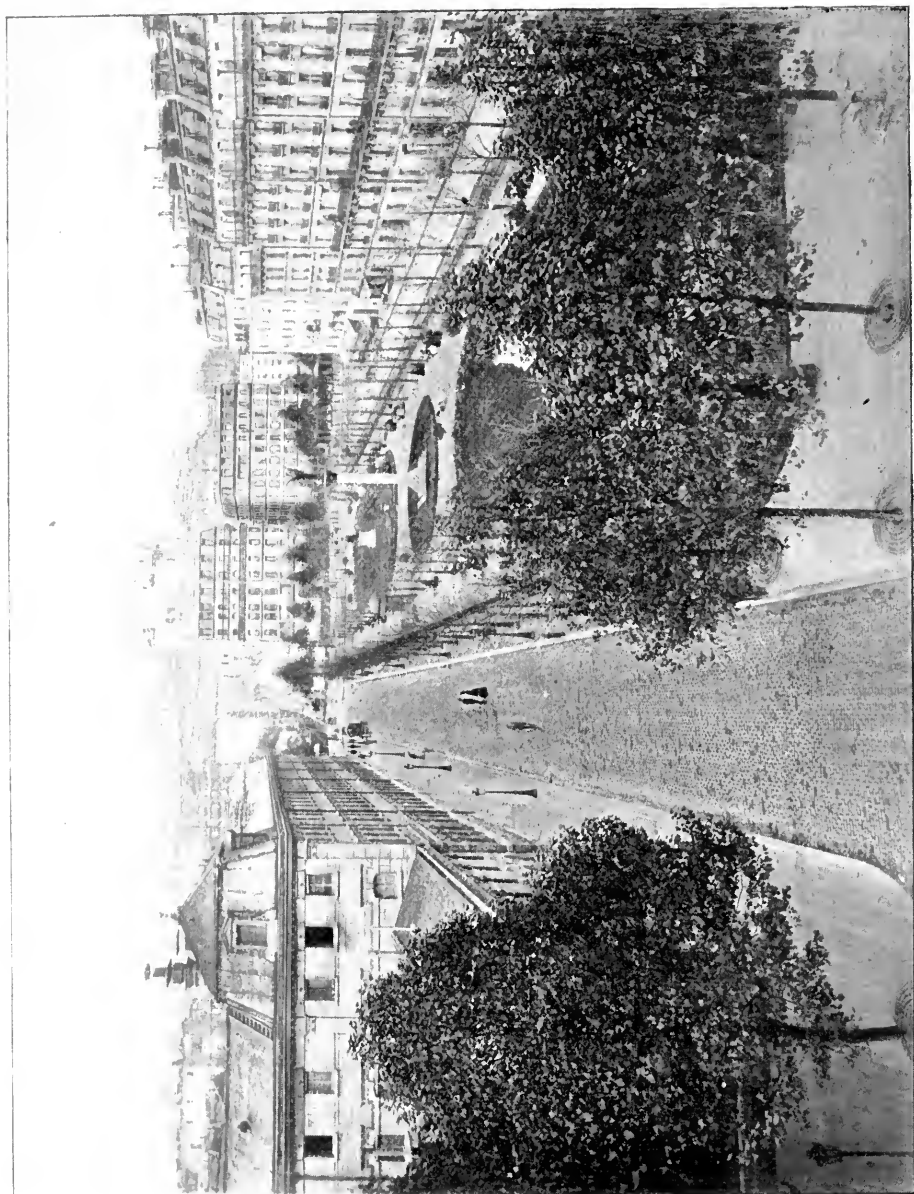
In reality, the National Vow to the Sacred Heart of Jesus rests upon the two fundamental principles which have in all ages been the making of great nations and the inspiration of the noblest actions:

God and Country.

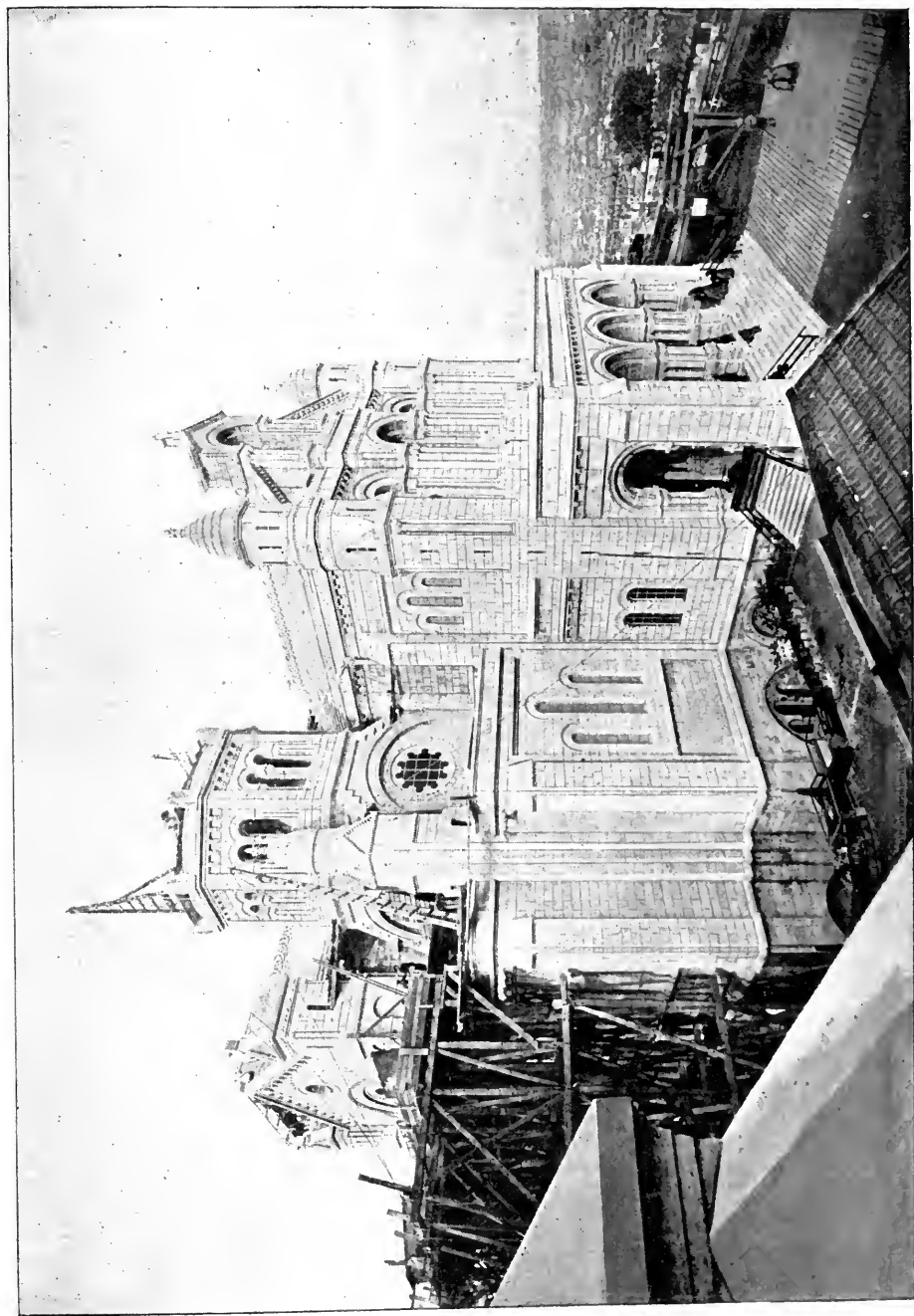
DESCRIPTION.

As soon as peace was declared and communication between the different parts of France was re-established, the originators of the Work commenced actively to obtain adherents and to collect subscriptions. They were completely successful in this double mission, for, at the beginning of 1873, when the foreign military occupation was still costing the country heavy sums of money, several thousand subscribers and 600,000 francs in cash had been secured. This result left no room for doubt as to final success, and therefore, in March of that same year, the Archbishop of Paris, Monsignor Guibert, who had accepted, on his own behalf and that of his successors, the high patronage of the work, selected the summit of the hill of Montmartre as the site of the new church.

From three points of view, the picturesque, the religious, and the histori-



THE CHURCH, FROM LA RUE DES MARTYRS.



THE PRINCIPAL FAÇADE.

cal, this choice was the best that could have been made; in fact, Napoleon I., whose eagle eye was so marvellously keen in distinguishing good sites, chose Montmartre for the erection of a Temple of Peace. Events did not allow him to execute his scheme, and shortly afterwards the place thus selected was occupied, first by a battery of French guns, and subsequently by thousands of English soldiers.

It is now thoroughly established that in the time of the Gauls the druids possessed a temple on this hill. When the Romans took possession of the country they constructed on Montmartre an altar to Mars; there also Saint Denis and his companions were beheaded, and on the spot where they were executed the faithful erected a chapel, then a church, and finally a monastery, which were, until 1793, among the most frequented shrines for pilgrims in France.

The position of the hill of Montmartre, dominating the capital, caused it to be often chosen as a camping ground by the French and foreign armies that fought around Paris. Lastly, in 1871, the defenders of the Commune made it their fortress and carried there the guns which they had seized. On this account Monsieur Thiers, remembering how difficult it had been to dislodge them, wished to construct on Montmartre a fortress capable of resisting either internal or external enemies. The choice made by the Archbishop upset his plans. The venerated prelate, however, succeeded in convincing the Chief of the Government that, for the maintenance of order, the pious rampart which he desired to raise would be more effectual than cannon-lined walls, and on the 25th July, 1873, the French National Assembly passed a law by which the construction, on the summit of Montmartre, of a church dedicated to the Sacred Heart of Jesus, was declared to be a work of public utility.

Shortly after the passing of this law, a public competition was held for the erection of the proposed church. This competition was open to foreign as well as to French architects. The plans of M. Paul Abadie were chosen from

amongst those of seventy-eight competitors. This design consisted of a crypt, or underground church, surmounted by a basilica, or upper church, the principal feature of the latter being a great central dome 16 metres in diameter and pierced with large windows to permit of the free diffusion of light inside. Around the base of this great dome there are four smaller domes, upon which the principal one appears to lean, as it were, in order to reach upward to the sky. The belfry, or campanile, is situated quite at the apsis of the structure.

This design, conceived in the Romano-Byzantine style, was, immediately after the close of the competition, subjected to various criticisms. The greater number reproached Mr. Abadie for not having adopted the Gothic style, of which there are so many masterpieces in France. Gothic is, in fact, at the present day the style in fashion, and it would appear impossible to construct a fine religious fabric without copying, from a distance, a church of the fourteenth or fifteenth century. The admiration which exists for this epoch is perfectly justified, but this infatuation must not hide from the sight of worshipers of Gothic architecture the fact that the shape of the ground is not always adapted to this style, and that the first duty of an architect is to utilize the whole of the space placed at his disposal. It is well also to remark that modern constructors are placed in circumstances entirely different from those in which their confrères of the Middle Ages found themselves. At the latter period transport was extremely difficult, while labor cost scarcely anything; indeed, the artists and workmen employed in church building at that time were often contented with food for their bodies and the prayers of the faithful for the salvation of their souls as the reward of their toil. The architect was therefore naturally led to employ, as far as possible, materials small in size and easily transported, and to make large use of labor, for mouldings and sculptures. Now, however, at the end of the nineteenth century, enormous masses are transported with ease; builders are consequently led to use



VIEW OF WEST FAÇADE.

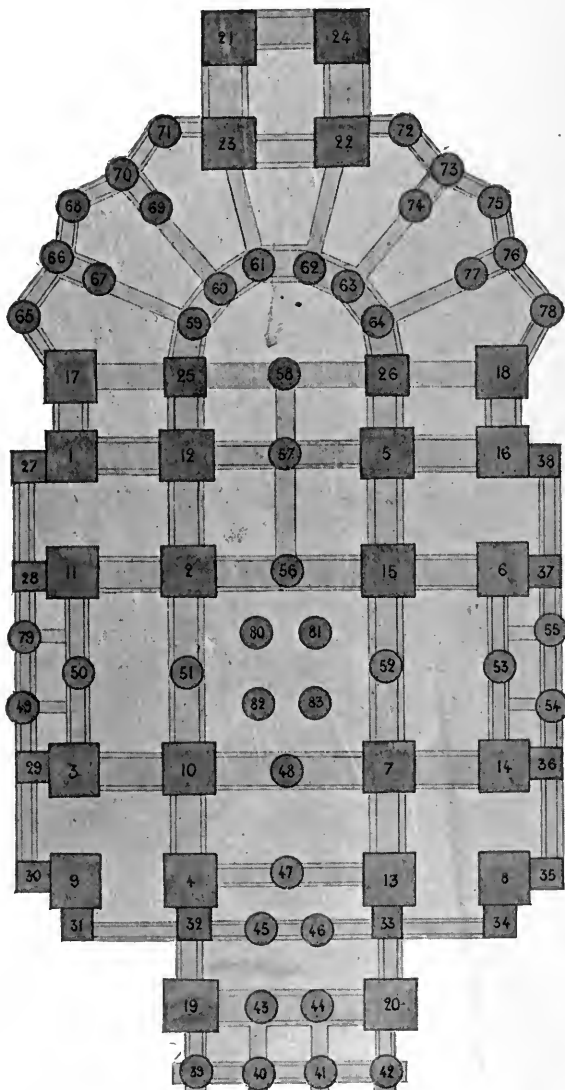
blocks of great size, which hastens the completion of the edifices, and they restrict as much as possible the use of mouldings and sculptures, as these demand much labor, the cost of which is exceedingly high at the present day.

THE FOUNDATIONS.

In spite of the criticism, more or less prejudiced, directed against the design, the Archbishop persisted in his determination, and about the middle of 1875 he gave the order to commence the work of construction.

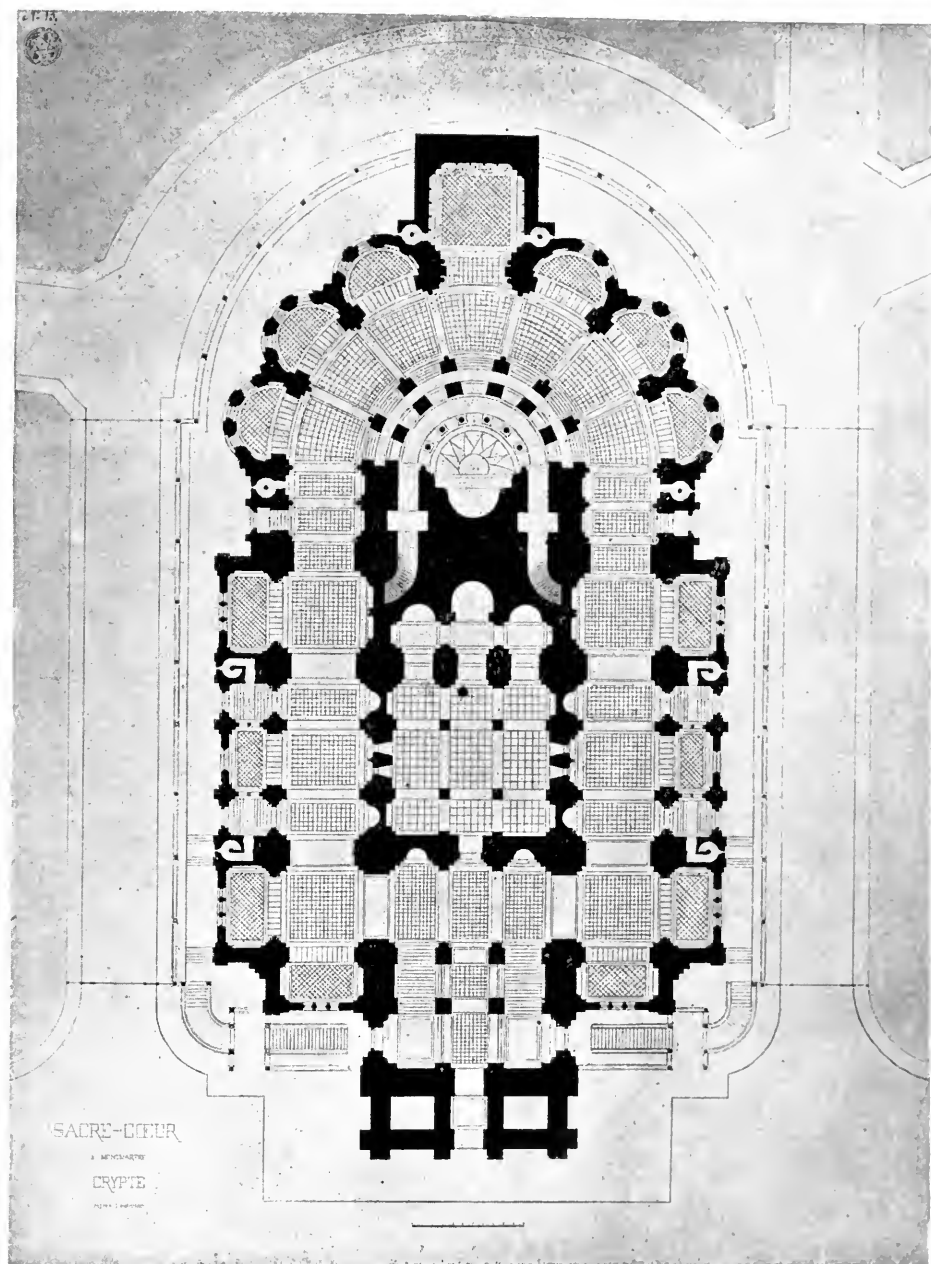
In digging the soil for the foundations of the future edifice, beds of clay were discovered, which, owing to the proximity of a steep slope, might have caused landslips, carrying the church with them. This was all the more to be feared, as the entire hill consists of sand, marl, clay, etc., in formations varying in thickness and without any cohesion between them. The architect cast about him for some effectual means of assuring the stability of his work, as, notwithstanding all these difficulties, it was still determined that the church should be erected on the summit of Montmartre, the finest site in all Paris. After repeated trials, the following plan was decided upon: Abandoning the idea of letting the structure rest on the ground of which the hill is formed, it was resolved to seek a foundation at the base of the butt upon the thick stratum of gypsum which underlies the greater part of Paris and whose crushing resistance is almost without limit. To obtain this result shafts were sunk at each of the principal points of the edifice. These shafts, which passed through the layers of clay and marl down to

the gypsum, were then filled with rubble-work consisting of millstone grit and a mortar made of hydraulic lime and river sand. At the top,

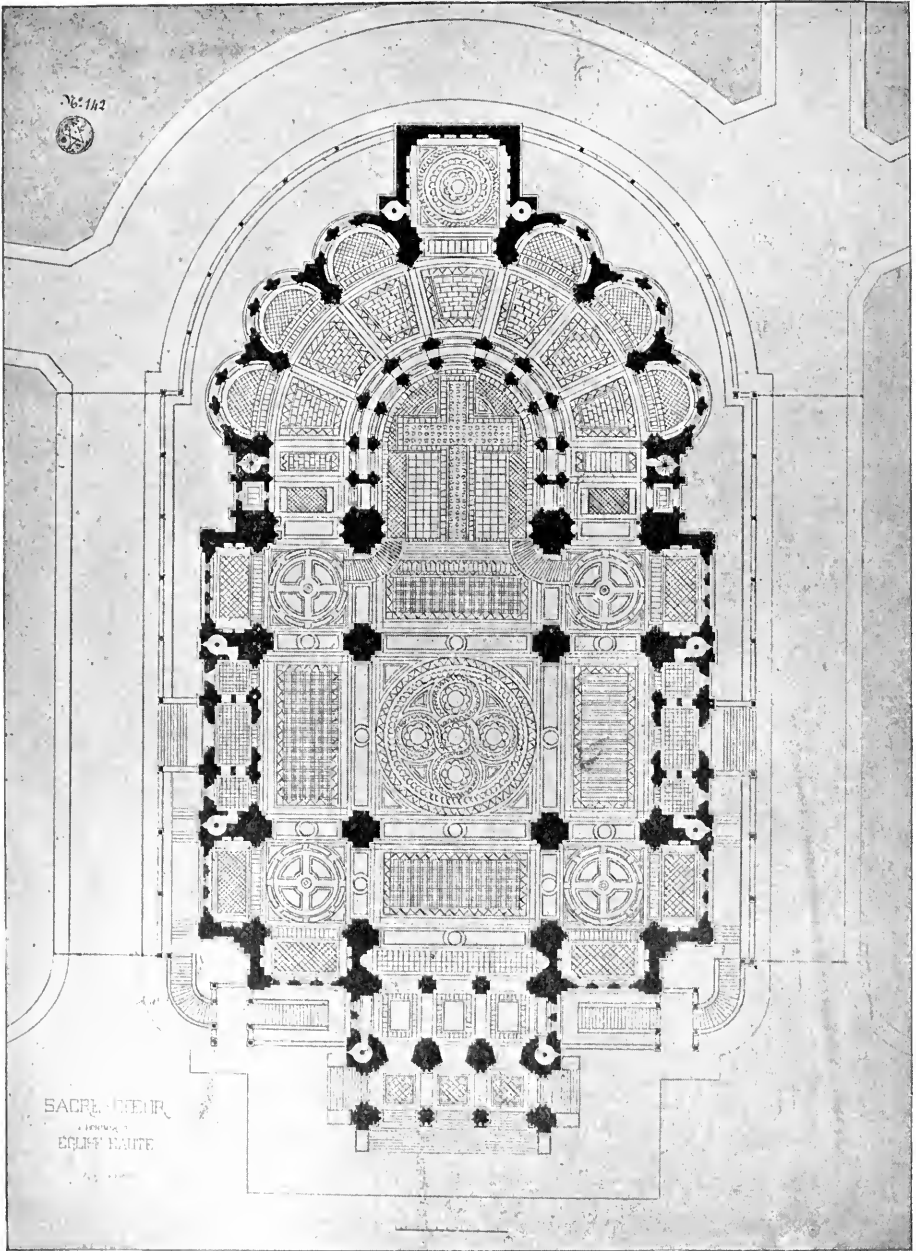


Plan showing arrangement of the foundations. The lighter tint indicates the arches, the darker tint the shafts.

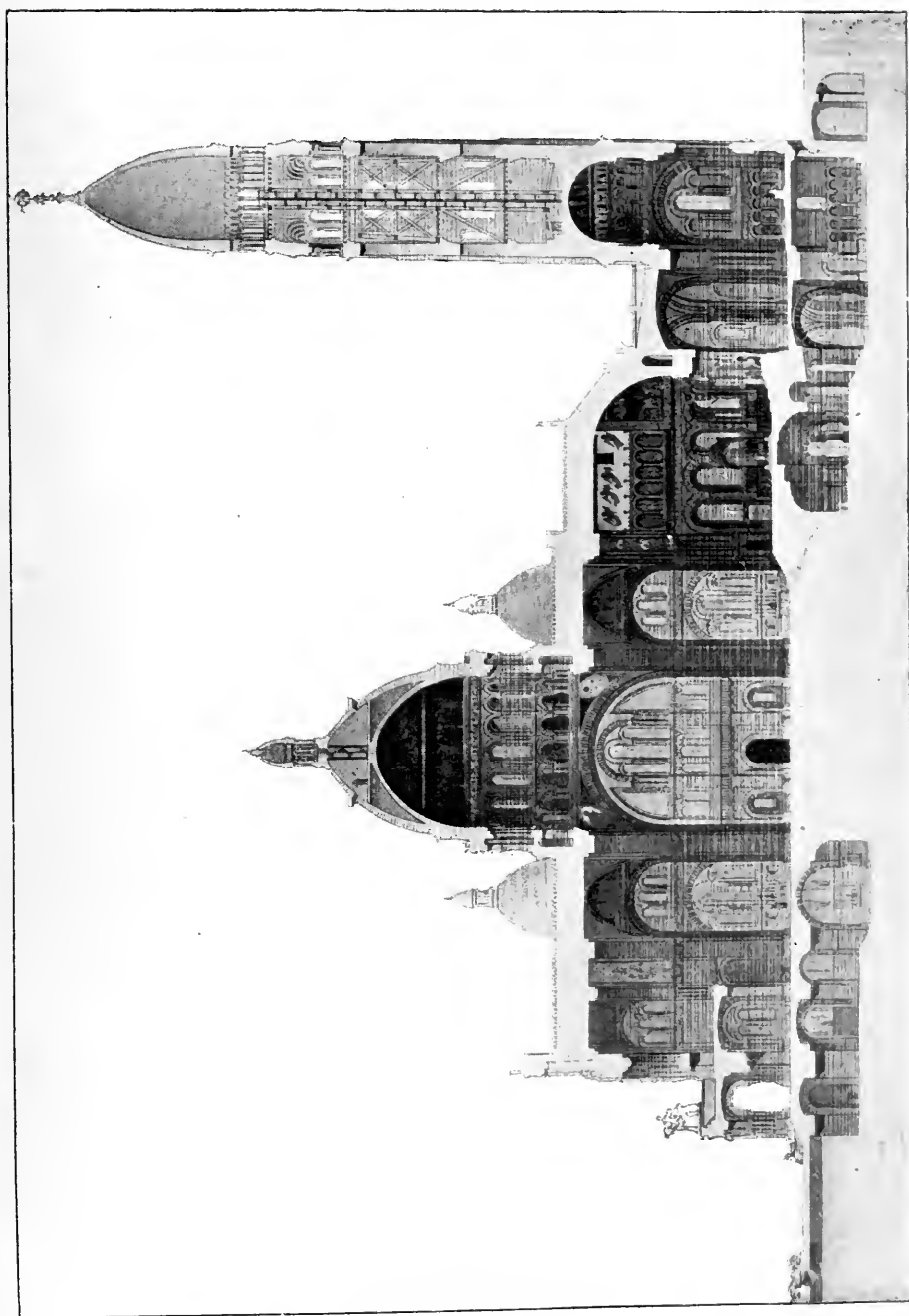
a little below the floor of the crypt, these shafts were connected together by arches made of dressed freestone, thus forming a series of bridges on which rest all the parts of the building except those bearing upon the shafts



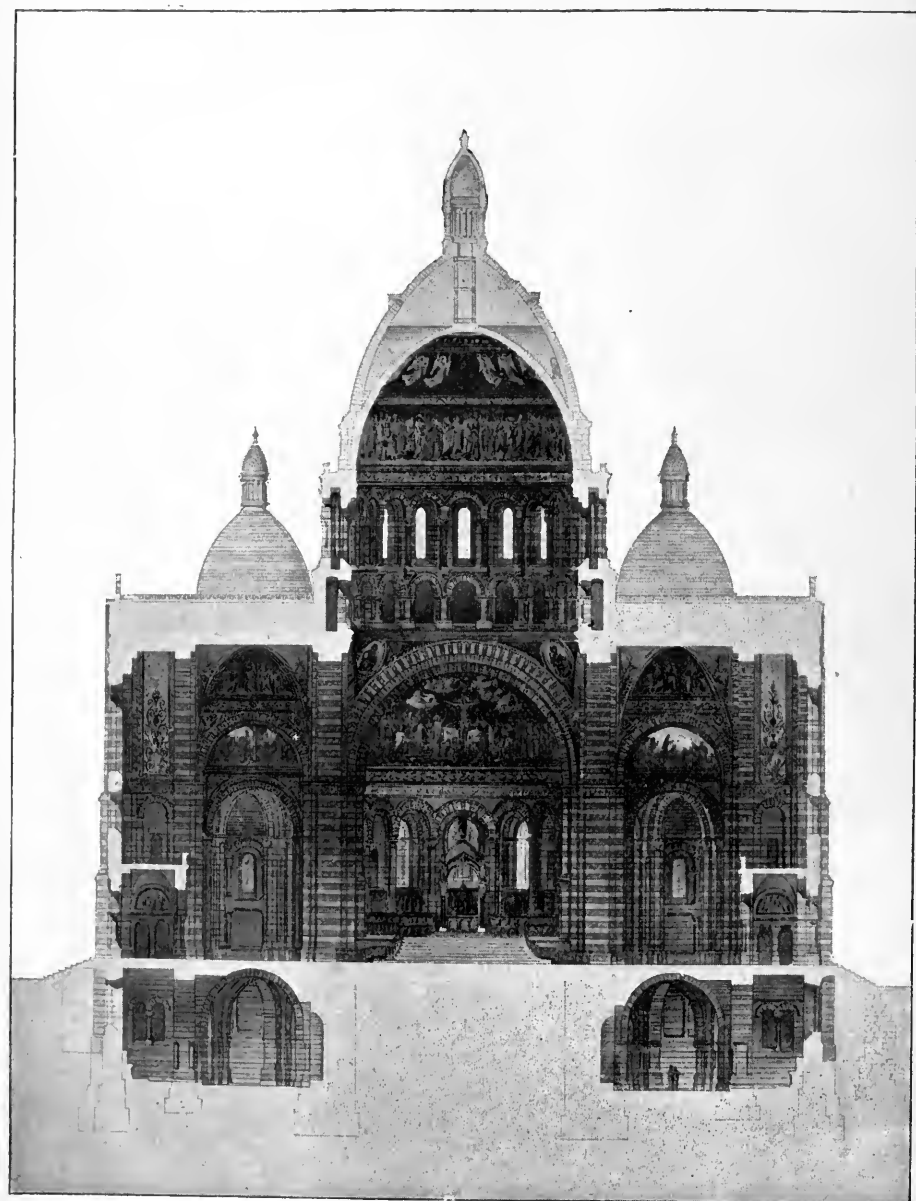
GROUND PLAN OF CRYPT.



GROUND PLAN OF CHURCH.



LONGITUDINAL SECTION.



TRANSVERSE SECTION.

themselves, so that no portion of it lies directly on the ground of the hill. The execution of these foundations was a work of some magnitude, as it was necessary first to dig out and then to fill with masonry:

Twenty-four large square shafts with sides measuring 5 metres.

Two large square shafts with sides measuring 4 metres.

Twelve large square shafts with sides measuring 3 metres.

Forty-five round shafts measuring 3 metres in diameter; in all, eighty-three shafts, each of them having a uniform depth of 33 metres 60 centimetres below the bottom of the large excavation made for the crypt. To sum up, the bottom of the shafts were 41 metres 22 centimetres below the surface of the summit of the butt. The digging of these shafts, not including the arches, involved the removal of 37,000 cubic metres for each. The work was difficult, inasmuch as it had to be done in somewhat loose ground, necessitating the lining of the shafts as fast as they were driven with jointed planks solidly held in place by means of wooden frames in the square shafts, and iron hoops in the round ones. In view of the friable nature of the earth and the nearness to each other of some of the shafts, it was decided, in order to avoid falls, not to commence excavating any shaft until the neighboring ones were completely filled with masonry. Notwithstanding all these difficulties, the work was executed without accident, and, in the early part of 1878, the shafts and arches being finished, the construction of the crypt was commenced. Here the unknown, so to speak, was left behind, and operations were begun upon work which, while more finely wrought than ordinary buildings, was of a kind that had often been done before. This was not the case with the foundations, which were certainly the most important and the most complete of their class hitherto made.

THE CRYPT.

Crypts, or underground churches, exist in a certain number of religious edifices of the Middle Ages, but in

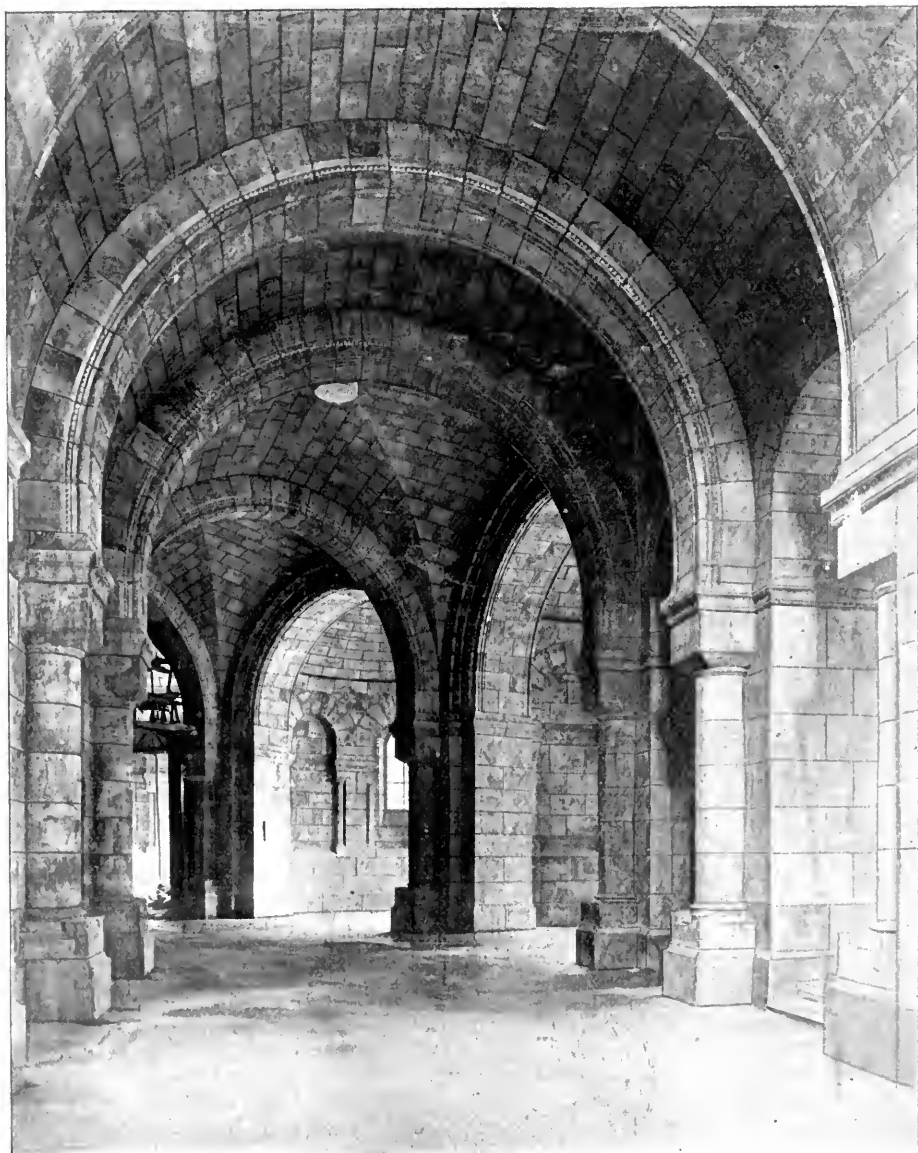
every case these crypts only extend underneath a small part of the structures to which they belong, whereas in the case of the Church of the Sacred Heart at Montmartre the crypt extends under the whole surface of the basilica; it is, therefore, properly speaking, a second church. This is at present the only part of the monument that is entirely finished, and all visitors praise it enthusiastically. This crypt has a mean height of 9 metres to the keystones.

The most remarkable part of the crypt is undoubtedly Saint Peter's Chapel, situated directly under the choir of the upper church. This chapel, the floor of which is 1 metre and a half higher than the surrounding aisles, is constructed on the semi-circular plan; its arched roof, forming the quarter of a square, is supported by a first row of short columns, beyond which there are two rows of solid square pillars connected together by a series of wide arcades.

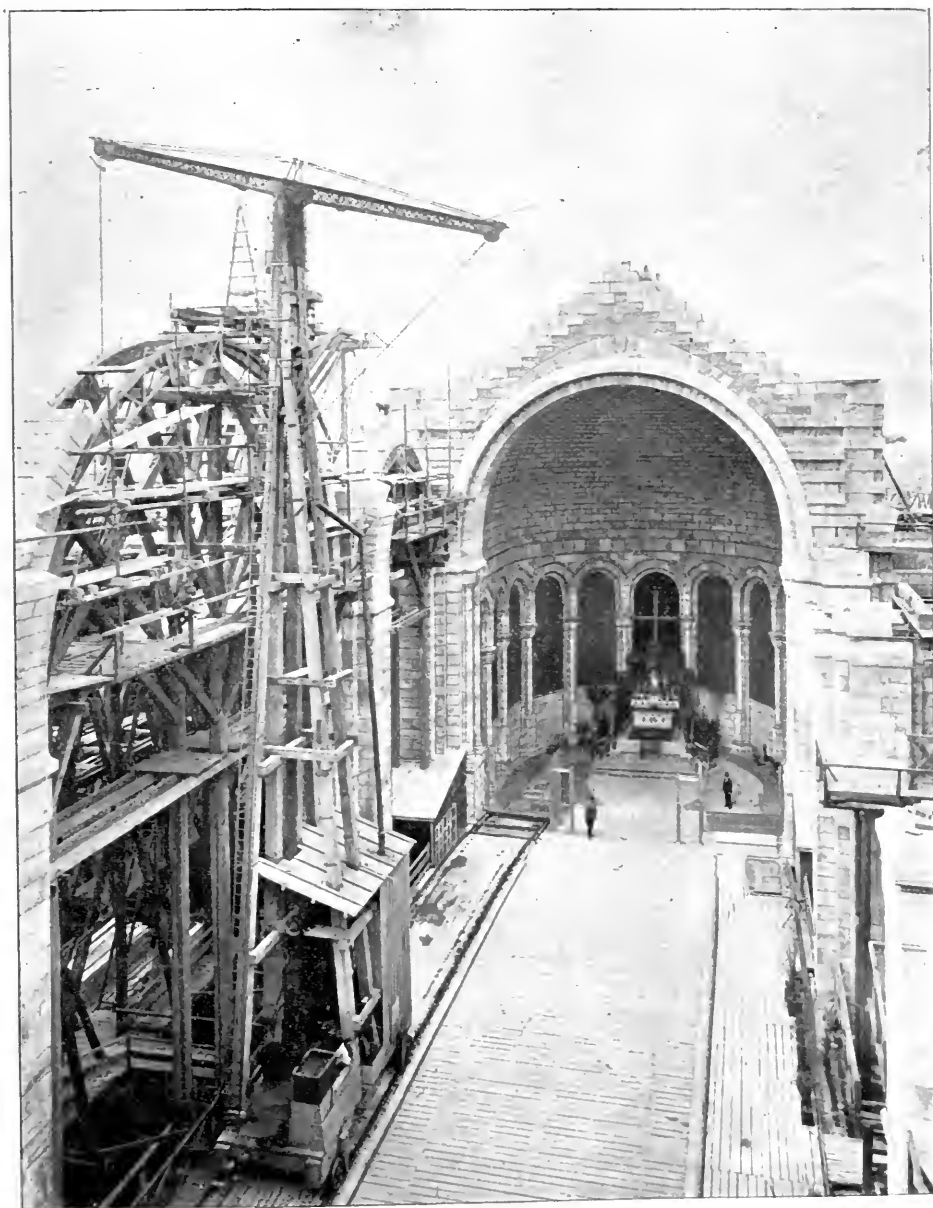
The seven side chapels which compose the apsis of the lower church radiate from the centre of Saint Peter's Chapel, so that the visitor, standing at this spot, embraces at a single glance, through a beautiful arrangement of columns and pillars, the whole of this part of the monument.

From the ends of Saint Peter's Chapel two fine staircases ascend to either side of the communion table, placed at the entrance to the choir. These staircases enable processions starting from the upper church to defile into the crypt.

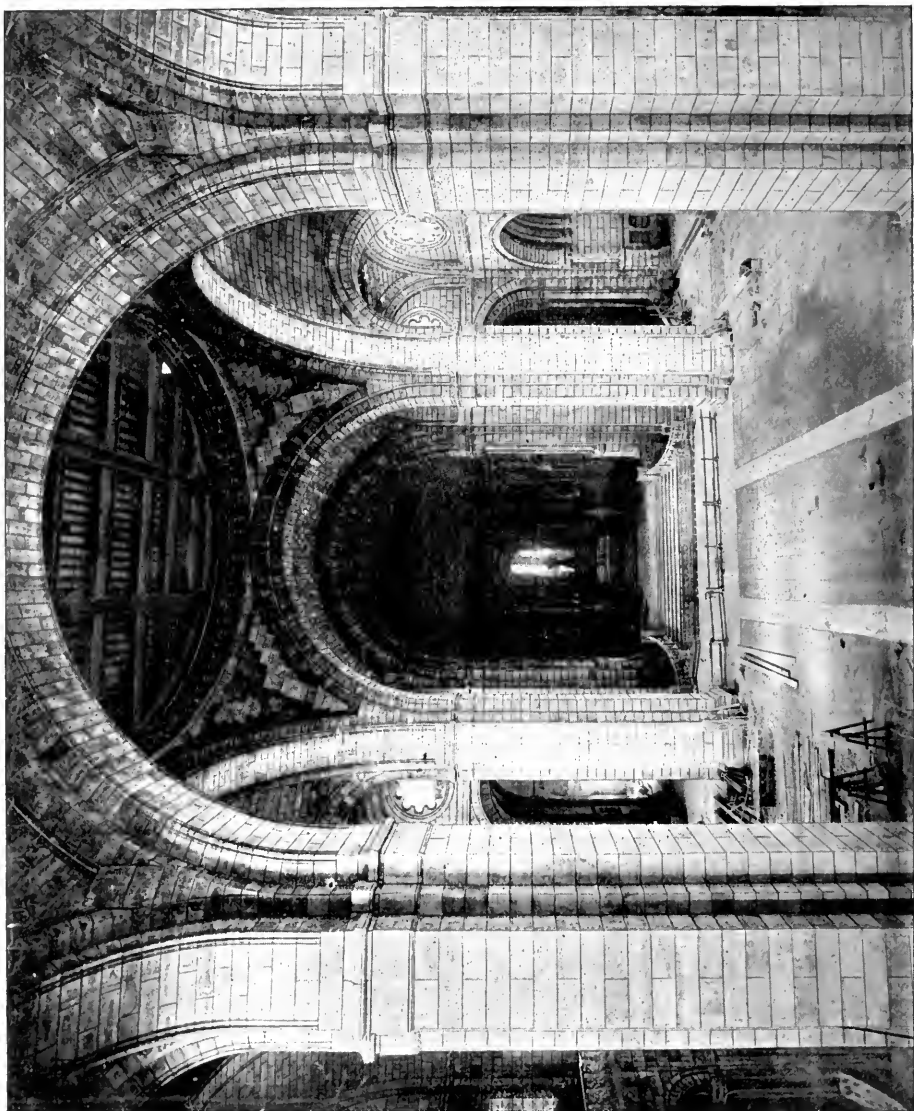
The "Reliquary," or place where relics are kept, is at the back of Saint Peter's Chapel. It is situated between the four massive piers on which rest the pillars supporting the great central dome of the upper church. This is the only obscure part of the crypt. When finally fitted up it will be lighted by lamps of a design harmonizing with the purpose of the chapel. Light reaches the other parts of the crypt by means of an area or dry moat cased with masonry and about three metres wide, the bottom being only a few steps higher than the floor of the crypt. This moat is composed of two similar parts, each beginning at the apsis end



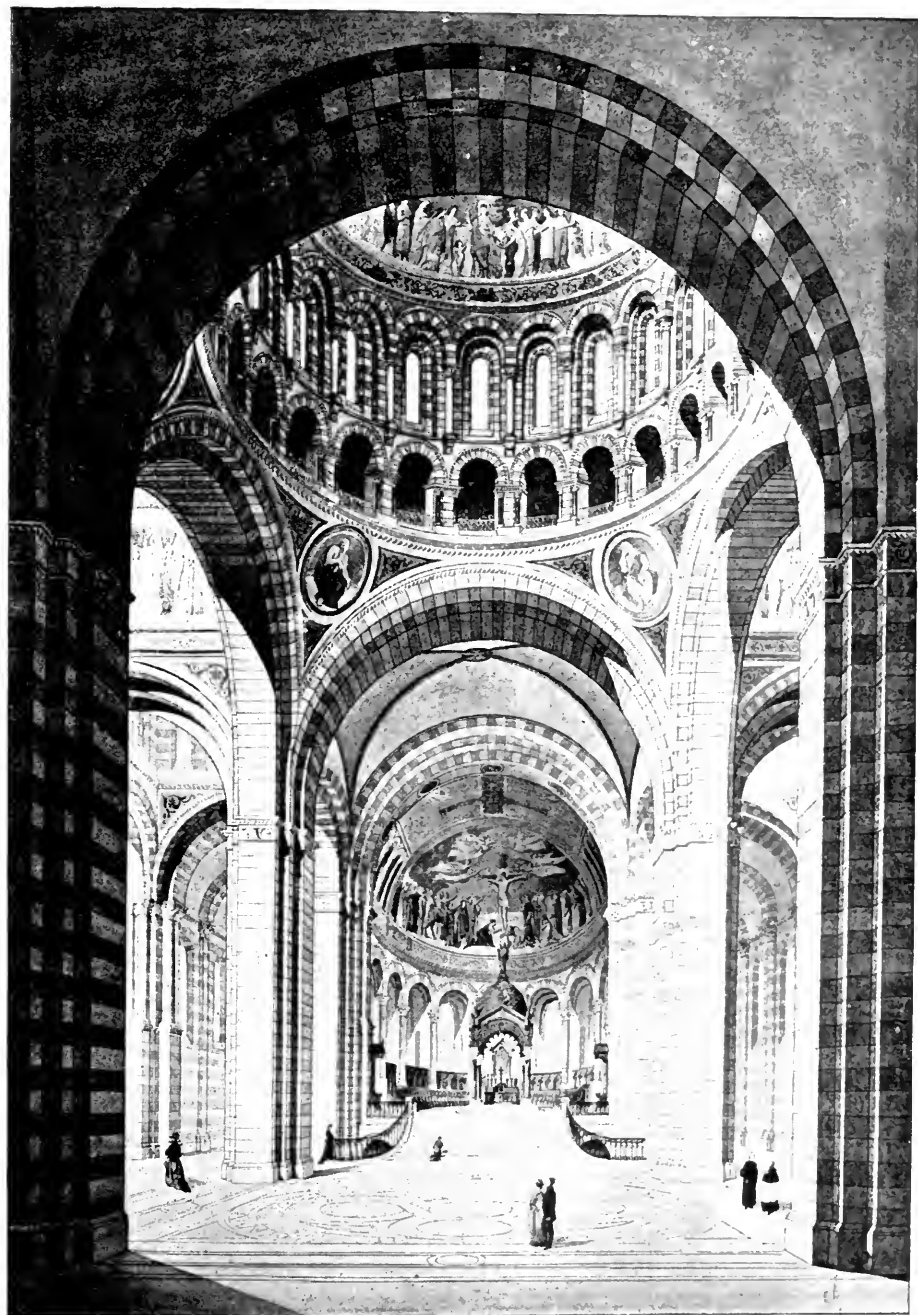
THE CRYPT, UNDER THE APSE.



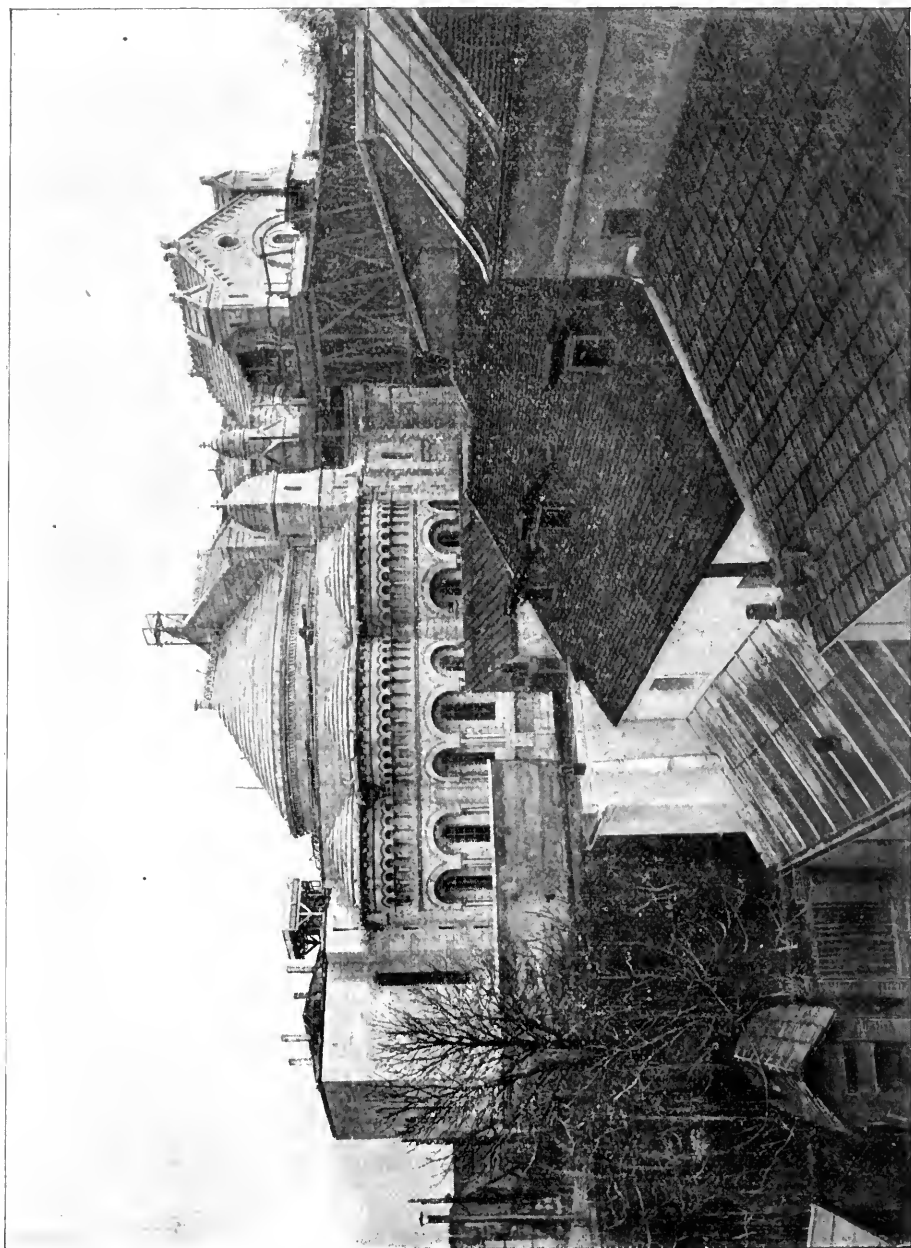
VIEW ALONG THE NAVE.



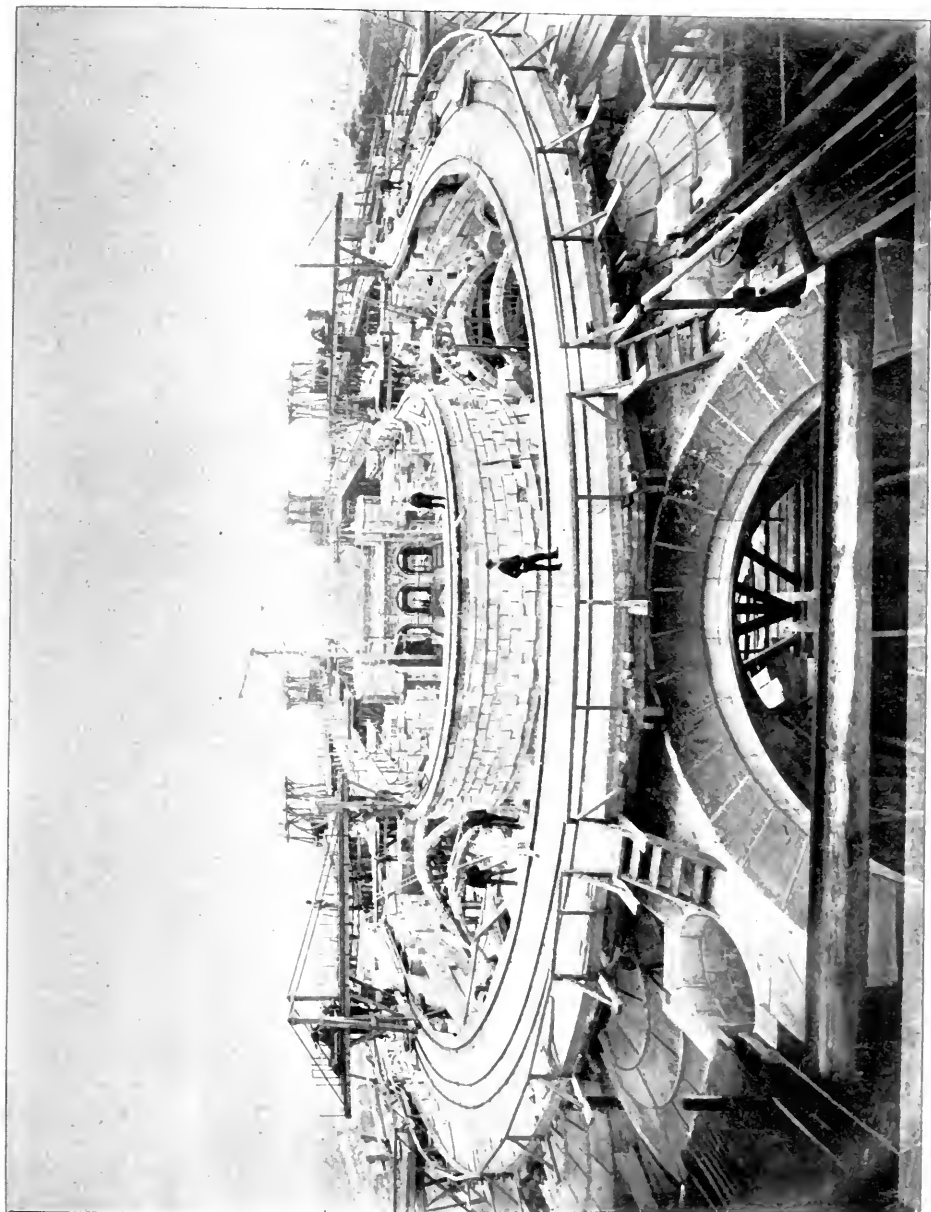
THE DOME DURING CONSTRUCTION.



UNDER THE DOME.



VIEW OF APSE.



VIEW OVER APSE, SEPT. 27, 1885.

of the edifice and terminating on either side of the porch by a wide flight of steps which comes out at the level of the streets surrounding the church.

Eight doors give easy access from the different parts of the crypt to the surrounding passage-way or moat; therefore overcrowding, which is so difficult to avoid in places where many pilgrims congregate, need not be feared at Montmartre. Furthermore, communication with the upper part of the church is provided for not only by the large staircases leading up from St. Peter's Chapel, which are mentioned above, but also by eight other smaller flights of steps.

THE FAÇADE.

The principal façade of the monument looks upon the city. In front there is a small open space, extending to the steep slope of the hill. From this open space, situated 92 metres above the level of the ground on which the Eiffel Tower stands, the porch is reached by ascending fourteen stone steps. This porch is, in reality, only a sort of veranda, or covered approach; it has therefore been made small in comparison with the remainder of the edifice. It is surmounted by a terrace, easy of access and overlooking all Paris. From this terrace it would be possible for a prelate, in imitation of what takes place in Rome, at Easter-tide, to bless not merely the city, but the entire diocese. From the porch one enters the basilica on the same level.

THE BASILICA.

The general plan of the upper church is a square, joined on the apsis side by a semi-circle, whose diameter is equal to the side of the square. From the centre of the square rises the great dome, which is 16 metres in diameter and 52 metres high inside. It is flanked at the angles of the square by four small domes, 8 metres in diameter, connected two by two, parallel to the sides of the square, by full-centered arches of 16 metres span and 8 metres in width. On one side, towards the apsis, in continuation of one of these arches, and

having the same span, is the choir. This is semi-circular at the rear, and its floor is raised $1\frac{1}{4}$ metre higher than the rest of the church. It is surrounded by a double line of pillars supporting the vaulted roof, which will later on be ornamented with rich mosaics. A semi-circular aisle or deambulatory, 8 metres wide, runs around the rear of the choir. There are seven chapels on the side of this aisle that is furthest from the choir. Six of them are semi-circular, with roofs in the shape of a quarter of a sphere, the seventh, placed at the back of the altar, in the axis of the structure, is square. This chapel is surmounted by a small dome, built inside the belfry, or campanile, which rises to a height of about 90 metres above the chapel. Six rectangular chapels open upon the two other sides of the upper church.

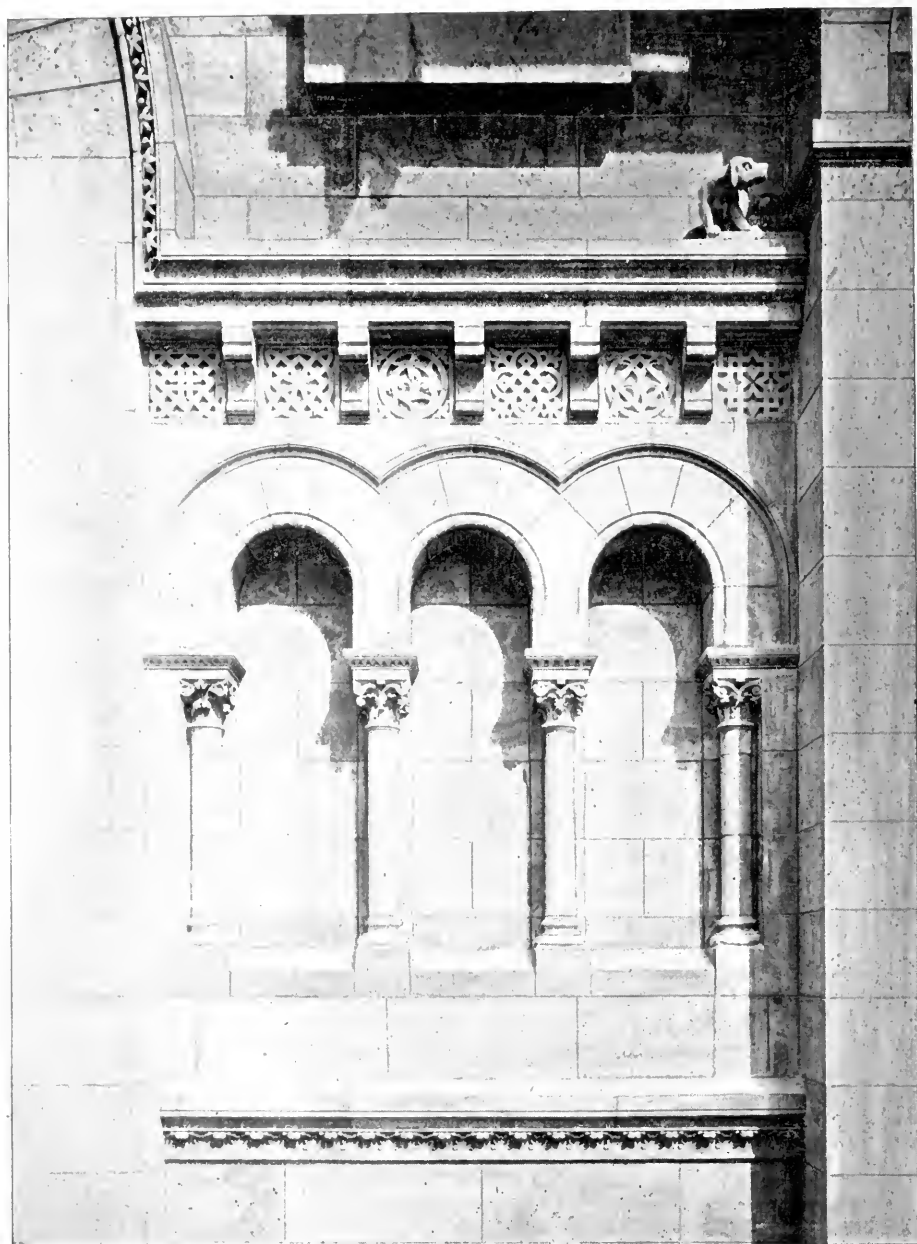
Besides the entrance by the porch, the basilica is reached from each of the two lateral façades by large doors, in front of which are wide flights of steps in the form of bridges thrown across the moat surrounding and lighting the crypt. In the interior there are galleries above these doors.

THE DIRECTION OF THE WORKS.

During the first few years the works were under the direction of Monsieur Abadie, the eminent architect who planned the church. But the buildings had barely risen a few courses above the floor of the upper church when he died, at the age of seventy-two years. The Archbishop of Paris then appointed for the continuation of the work an architect possessing talent, but who, too deeply imbued with the principles of Italian architecture, could not appreciate the beauties of any other style. The modifications which he attempted to make in the original plans having been rejected he was obliged to retire. It was then that the writer was chosen. From the commencement he had been connected with the work of constructing the Church of the Sacred Heart, and he was acquainted with the thoughts and desires of Monsieur Abadie who had appointed him his surveyor; that is to say, the second in



DETAIL OF APSE.



ARCADE ON WEST FAÇADE.

command. As the writer was considered rather young to have sole charge of such important works, Monsieur Laisné, a former professor at the "Ecole des Beaux Arts" of Paris, one of the veterans and most highly esteemed of French architects, was appointed as his colleague. The latter died at the beginning of the year 1891, and upon the writer then devolved the honor of continuing alone the work of the Master.

GENERAL CONSIDERATIONS.

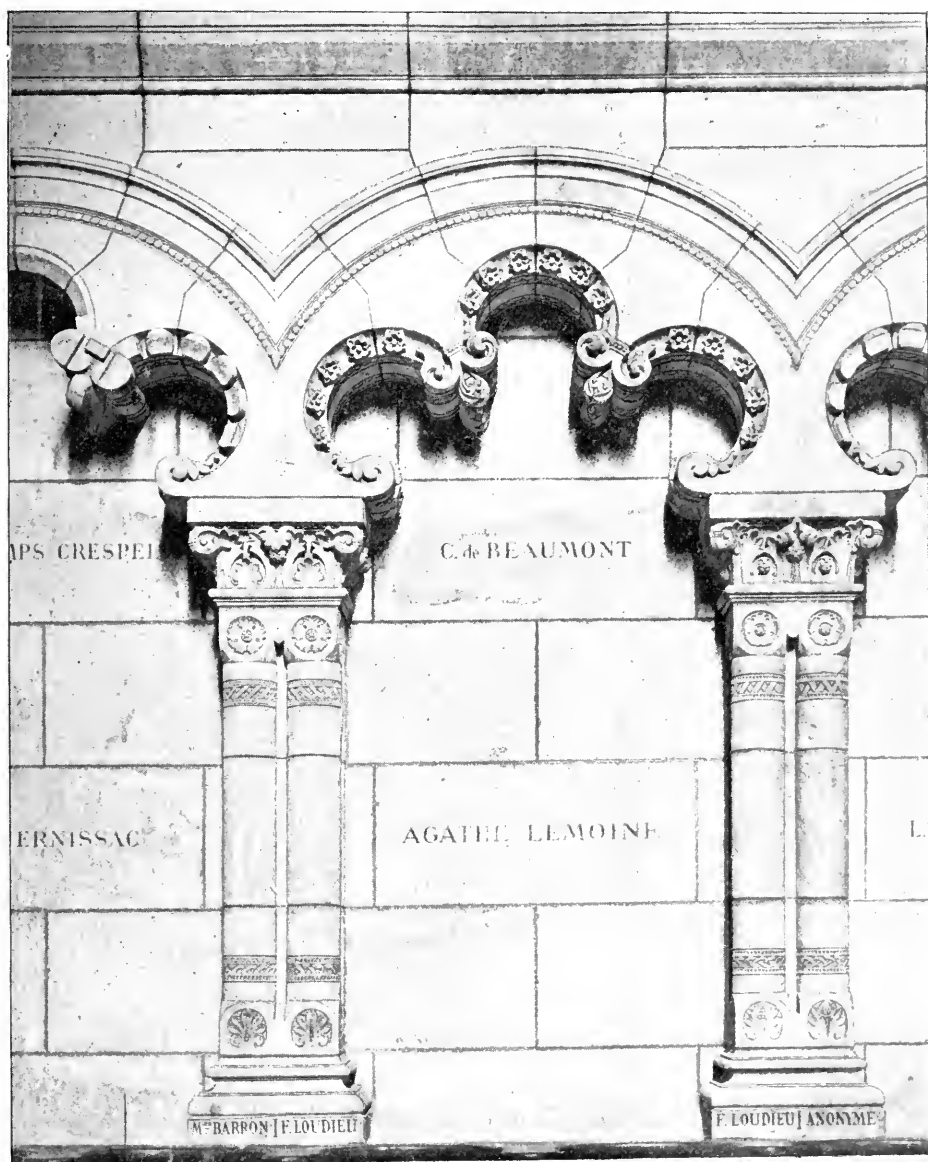
At present the whole of the church is used for religious services. It is, however, far from being finished; to say nothing of the decoration, which is scarcely begun, there still remains to be built all that part of the great dome which rises above the roof. Now it is precisely this dome that constitutes the principal feature of the monument and which gives it its special character. Consequently the public cannot form a just opinion as to what the church will be like when completed. The Church of the Sacred Heart is constructed upon a novel plan. There is nothing else resembling it in existence and it cannot be judged by comparison. However, even at present, connoisseurs admire the boldness of the idea of the four pillars, which by themselves support the great dome, the fine arrangement of the chapels and vaulted roof, and the conception of the whole plan. Builders, architects, engineers, contractors, etc., unite in praising the beautiful execution of the parts already finished and the judicious selection of the materials. No wood or iron is used in the construction of the monument. The walls, the arches and the roof are in dressed stone. The stone employed comes from Château Landon, or rather from Souppes, a small district situated beyond Fontainebleau, 97 kilometres from Paris. It is very hard, of a yellowish white color, and, far from blackening when exposed to the weather, it has, on the contrary, the advantage of becoming whiter. All dressing and moulding is done at the quarries; when the stones arrive at

Montmartre they only have to be sculptured. This mode of execution, which is very economical, as the country workmen receive lower wages than those of Paris, requires numerous and very careful drawings. Each stone is sketched in the offices at Montmartre and all particulars are sent to the quarrymen, who make drawings of them to full scale. Notwithstanding this complicated system mistakes are extremely rare and those made are always unimportant. In addition to this there are no corners broken off, as the transportation takes place by boat.

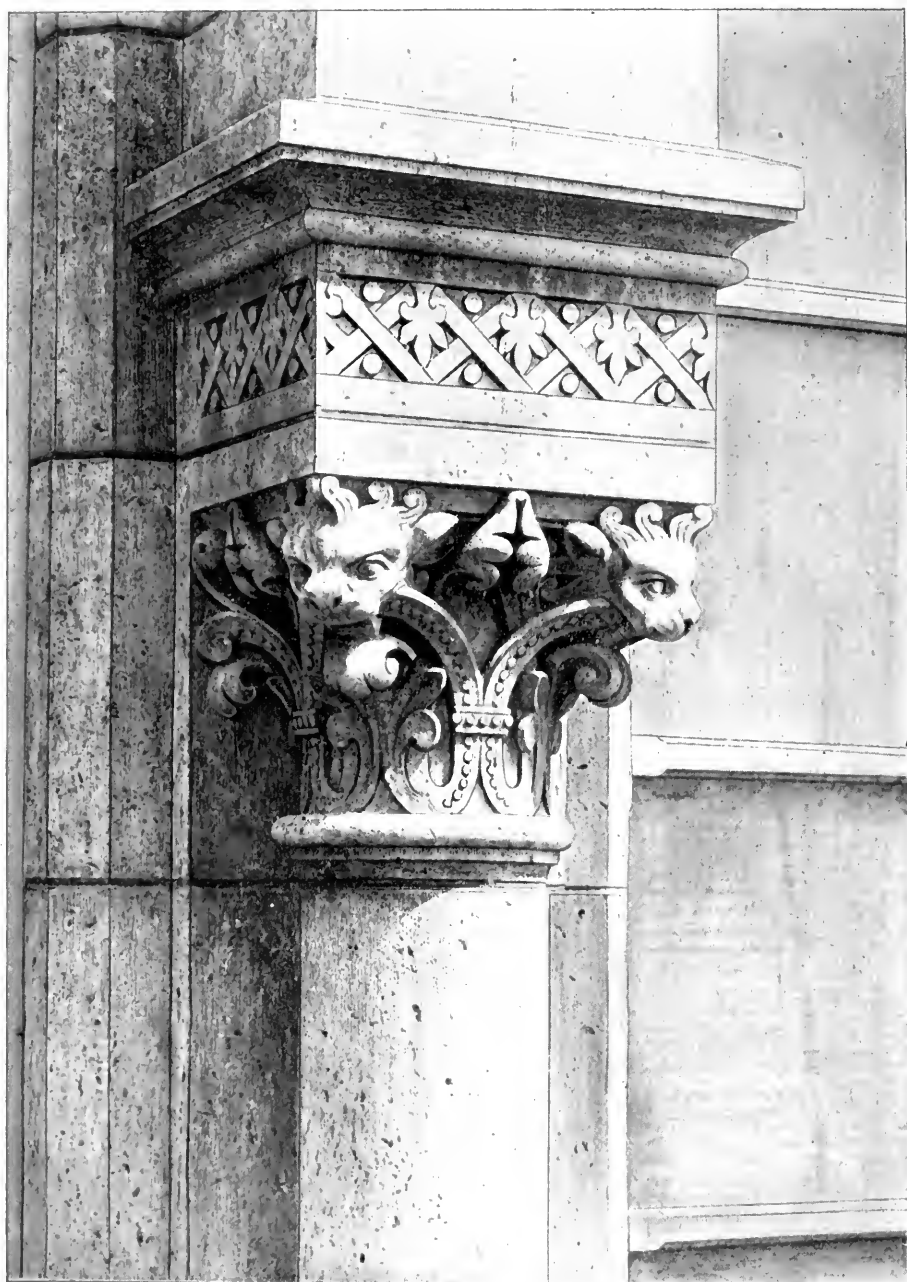
The dressed stones need to be handled with care in order not to damage them in the frequent manipulations which they have to undergo before they are finally put in place. However, almost all risk of accident has been avoided by the use of the ram's head for lifting the stones. In fact, this method is very simple and easily worked, and prevents all risk of accident. Out of the 160,000 blocks of stone, each of which has at various times been hoisted in this way in the building of the Church of the Sacred Heart, scarcely half a score have dropped, although some of them weighed four tons. It should also be remarked that these accidents always happened at the moment when the stone was just being lifted, at one or two metres from the ground, so that the falls never had any disastrous consequences. On the other hand, the use of the ram's head requires fewer men to put the stones in place, but necessitates the construction of solid timber scaffolding, at a heavy cost, to carry the cranes employed in lifting. On this account, up to the 1st January, 1893, the amount expended for timber from the commencement of the work was 2,200,000 francs. This figure, while rather high in itself, is not at all unreasonable, considering that to the same date the amount spent on masonry was 16,000,000 francs. These two sums, added to that of 1,650,000 francs spent for excavations, represent the largest part of the total cost of construction properly called, which amounts to 20,640,000 francs. If to the last-named figure is added the cost of buying the



WEST FAÇADE.



IN THE CHAPEL OF THE CHEVET.



CAPITAL ON WEST FRONT.



CAPITAL ON WEST FRONT.

ground, managing expenses, etc., we reach a total of 25,482,000 francs. Up to the same date of 1st January, 1893, the receipts were 25,873,000 francs, gathered in the following manner :

1. Collections which at fixed periods, on an average twice per year, are made in the greater number of the churches in France.

2. The gifts of from 20 to 500 francs, each donor of which can have his initials marked on a stone set apart for him in the edifice.

3. The gifts of from 1,000 to 100,000 francs, to the subscribers of which are conceded columns and pillars, in the capitals of which they can have their names or arms sculptured.

4. The cards of the *Sacré Cœur*, which are a little larger than ordinary visiting cards. These cards, for the use of poor people, are divided into 1,200 small squares. Each square represents 2 cents, and the complete card corresponds to the price of a stone.

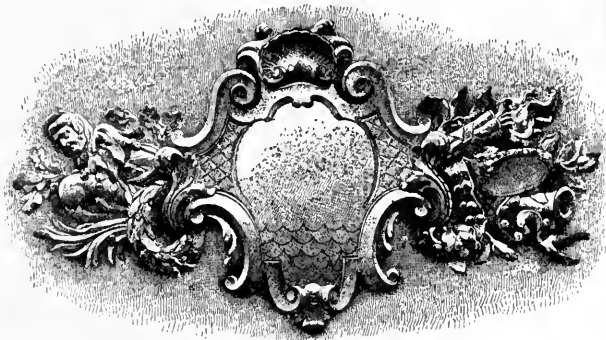
Several persons can thus unite together for one single gift. In a large number of pious families, the children have cards of this kind, which they present to the parents and friends of the house, who are pleased to take at least one square.

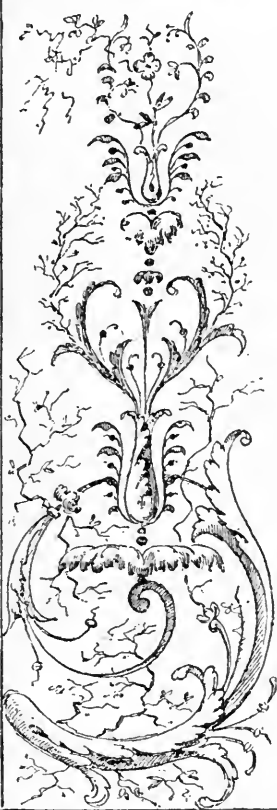
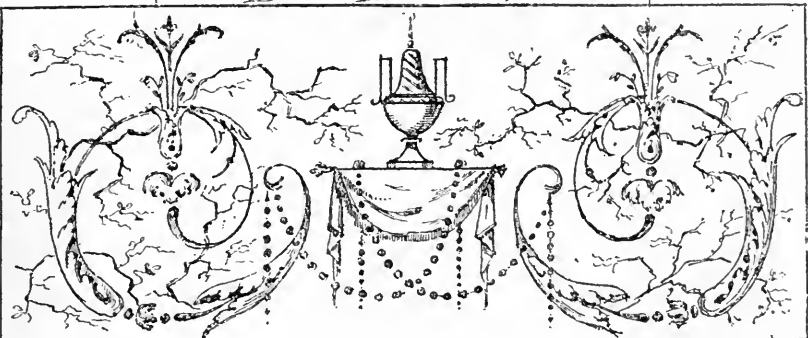
5. The gifts made without any special destination being indicated, but which are none the less always applied to the erection of the Church.

The different methods above named bring in on an average, from 1,200,000 to 1,400,000 francs per annum.

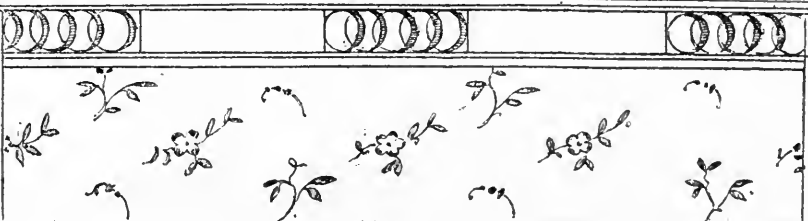
The greater part of the sums thus collected come from France, yet many foreigners have desired, by their offerings, to indicate their pious feeling towards the Church of the Sacred Heart, and to testify their sympathy for France. Their gifts are received with all the more gratitude as it is the rule in our day for numerous friends, whom we had in prosperity, to abandon us in adversity.

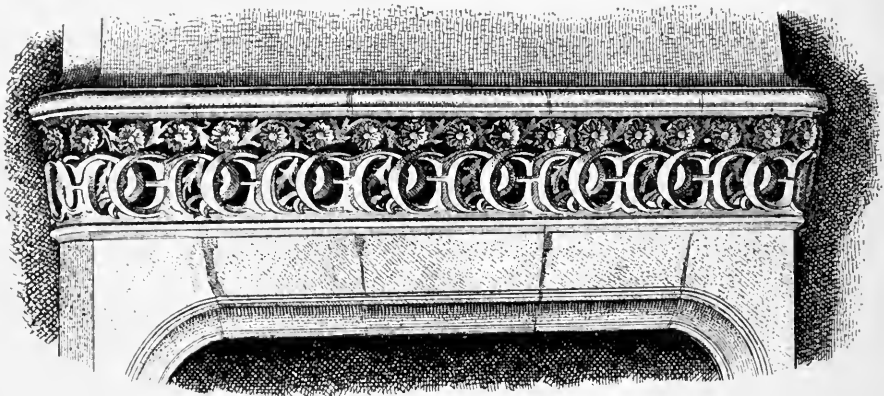
Henri Raùline, Architect.





THE ALPHABET . . .
OF ARCHITECTURE.





THE ALPHABET OF ARCHITECTURE.



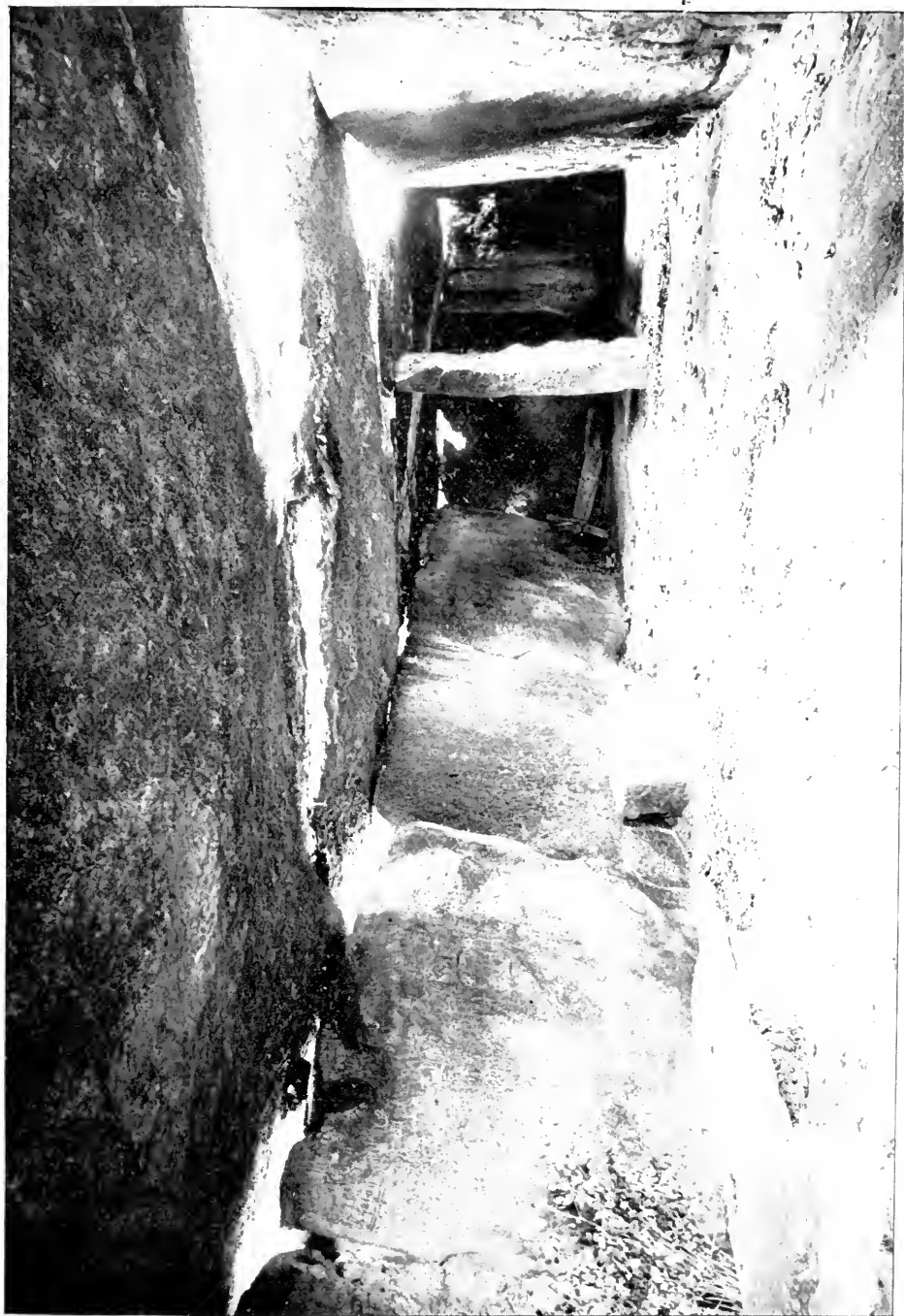
EXCLUDING from consideration our far off ancestors that lived in caves, Man has always been a builder, and it is with the products of man's efforts as a builder that a history of architecture deals.

But, architecture is not merely building, the result of purely constructive or mechanical skill. To plant a number of

stakes side by side in the ground, to set stone upon stone, or to pile up a mass of plain brick wall is not to produce a work of architecture, no matter to what purpose the structure may be put. Before building becomes entitled to the dignity of being regarded as architecture it must be expressive of some degree of beauty. It must tell us something of the thoughts and feelings of the man or the men who produced it; and the thoughts and feelings which it reveals must be of the kind that we recognize as beautiful. Indeed, all the Fine Arts—sculpture, painting, music, as well as architecture—are *modes of expression*, means which some men adopt to speak to their fellows. And, just as words are charged, or as it were filled with the state of

the mind of the speaker, so that we perceive always something more than their literal meaning, so in a work of architecture (or in any other work of art) a condition or frame of mind is revealed.

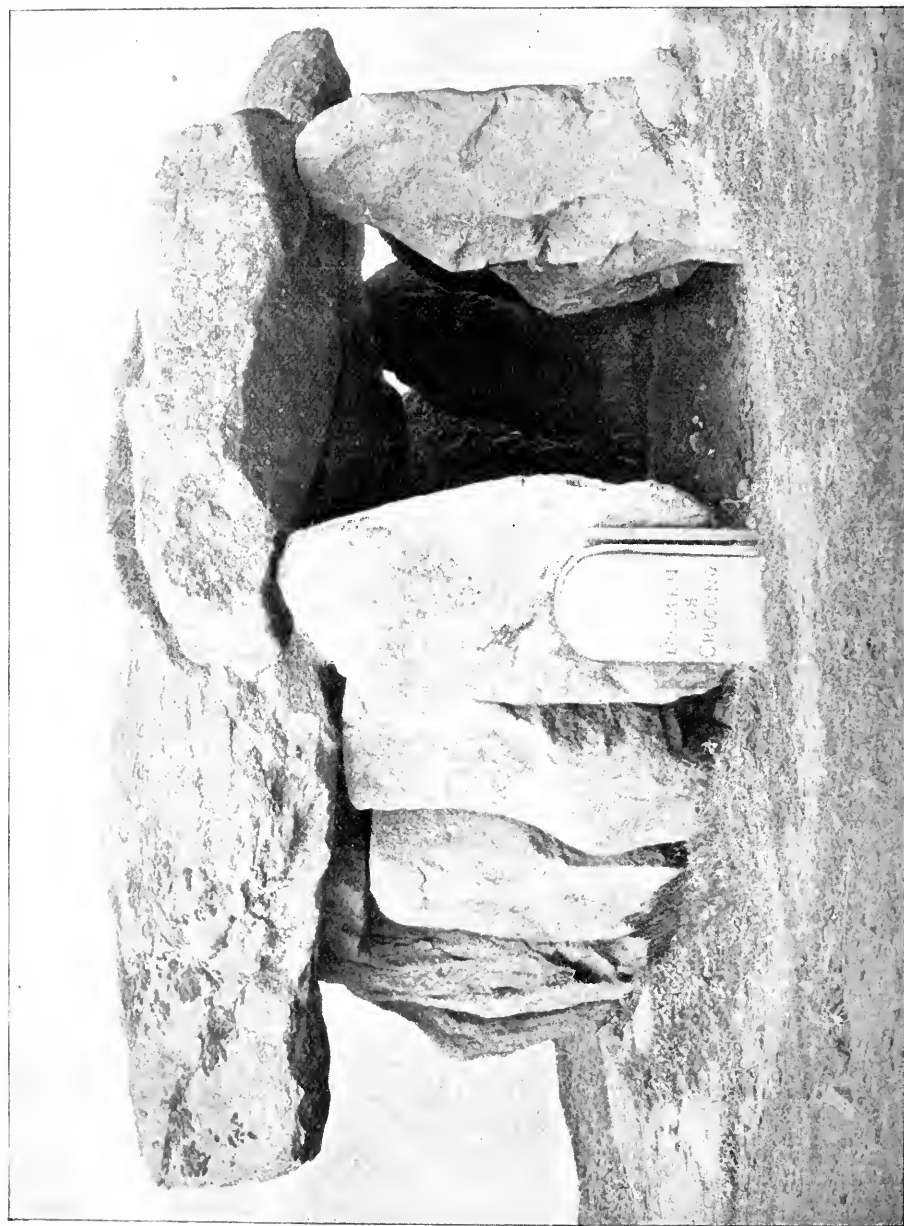
The accompanying illustration of a covered stone passageway erected at Bagneux, in France, in prehistoric days, represents a considerable effort of construction, particularly for a time when mechanical skill was very primitive, but it is expressive of little more than a desire for an inclosed or protected means of communication. It reveals no search on the part of the builders for beauty, consequently it cannot be classed as architecture. The same may be said of the Egyptian pyramids, the most stupendous of the works of man. Strictly speaking, they are but buildings which impress us by their magnitude measured in human labor—huge mounds of masonry piled up like large ant hills—displaying, certainly, much mechanical and constructive skill, but no beauty. We may read in them purpose (they were the burial places of Egyptian kings) and a desire for stability (they were intended to protect for an enormous length of time the regal mummies laboriously hidden in their mysterious recesses), but form, arrangement, material, all alike are pressed to do service to a sombre and



Bagneux, France.

PLATE I.—STONE PASSAGE-WAY.

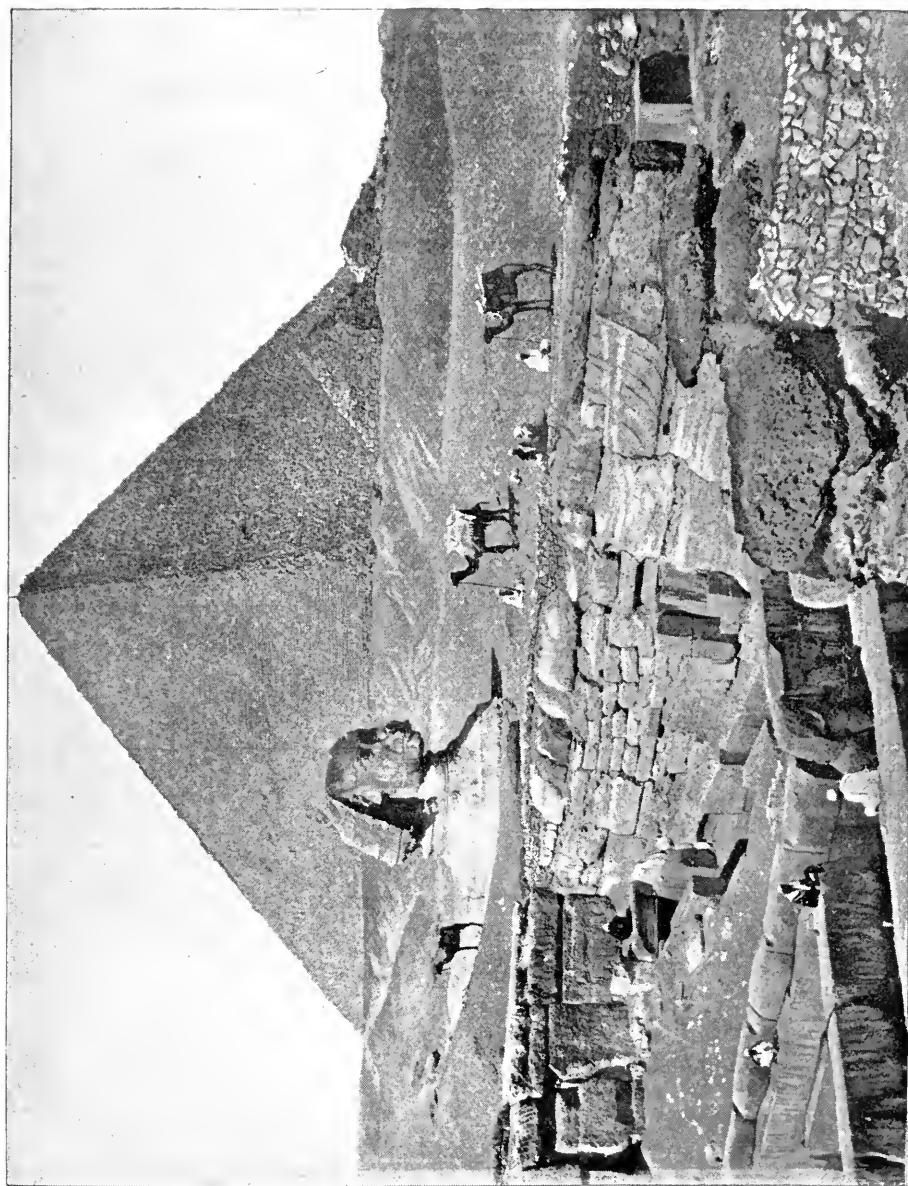
Remains from Pre-historic times.



Erdeven, France.

PLATE II.—ANCIENT DOLMEN.

Remains from Pre-historic times.



Near Cairo, Egypt.

PLATE III.—THE GREAT PYRAMID,
(Showing the Sphinx and the Temple of the Sphinx in foreground.)

grandiose utility, and nowhere on the vast structures can one discover the slightest attempt at a disinterested expression of beauty.

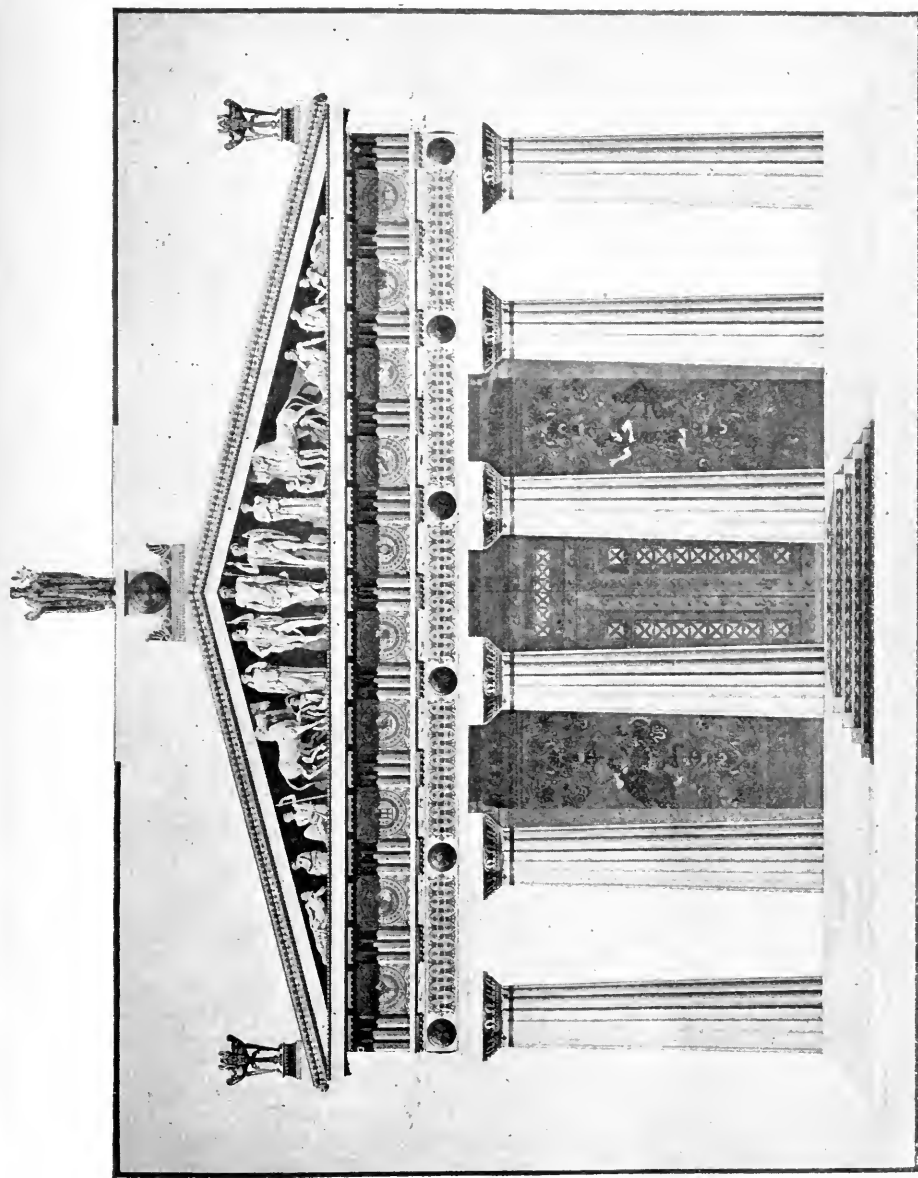
One of the very first subjects which a student of architecture encounters upon beginning his work is that of "styles." As soon as he opens textbook or more voluminous history of art he finds himself confronted by a perplexing classification. He glances from chapter to chapter, and discovers, in successive order, that there are Egyptian, Assyrian and Persian styles, the Greek style with its sub-divisions, the Roman, the Romanesque (and here again there are many sub-divisions), the Gothic with its several "periods," and finally the Renaissance with its many diverse manifestations in many lands. Little wonder that his first impression is somewhat one of confusion, or that he vaguely concludes that the history of architecture is the story of a great number of disconnected efforts.

But, starting in this way, the student commences at a false beginning. He sets out with an erroneous conception of the nature of the road before him. The first fact which we desire to insist upon here is that the history of architecture is rather the history of one long continuous effort, like the growth of a tree, of a chequered but unbroken development, than of a number of independent original beginnings. In truth, there are no absolute beginnings in architecture. Strictly speaking, it is impossible to point to any one building or any one year and say there and then such or such a style began. Every style has been developed from, or, as it were, has been constructed of some preceding style. In architecture nothing has ever been stationary. No two buildings are quite alike; the wants of people are forever changing; their ideas and tastes change; their circumstances and conditions change; the individuality of men change, is modified, indeed, in the progress of one generation merely from youth to old age; one generation differs from its predecessor; new methods of working are invented; new materials are brought to hand; and all of these changes, no matter how slight

they may be, creep into architecture, modify it little by little, at times almost imperceptibly. Thus we have transition; change is added to change, until pronounced divergence from some former point is observable. When these differences become so marked that they are distinctly separative we get what is called a new style.

The extent of the inter-relation of the styles will be made clearer as we proceed, but at the outset the reader must banish from his mind completely any idea that styles are "invented," created or commenced by deliberate, purposeful effort. Grecian architecture would have been impossible but for the work of the Egyptian, the Assyrian, the Phœnician and other peoples of Asia Minor. The Greek, in turn, transmitted to the Roman the style he had developed—not the whole of it in one act of transmission, but parts, certain elements as examples, suggestions, precedents—and the Roman, using and modifying what he borrowed conformably to his own peculiar requirements, handed on his practices (again, as in the case of the Greek, not by any direct act) to the Romanesque builders scattered all over Europe, who developed in time a new style—the Romanesque. The Romanesque, advancing along certain lines, resulted in the Gothic. The latter passed through many stages until in the fourteenth century it reached what is to us its culmination at almost the very moment when a prodigious turn in the affairs of mankind was directing the attention of Europe to a new style—the Renaissance—derived from the old Roman style which had really never quite died out in its home in Italy, where there remained to engage the attention and prompt the imitation of prelates, princes and architects so many splendid buildings from Cæsarian times.

On the accompanying pages illustrations are given of typical buildings in the several chief styles; and, in order to bring out clearly what we mean by "styles," let us ask: Upon what principle would we expect to find the classification of these buildings based? Why, for instance, is the building in Figs. 1 and 2 assigned to one style and



The Temple of Zeus,
at Olympia.

PLATE IV.—GRECIAN TEMPLE.

From Laloux and Monceaux's
"Restauration d'Olympie."

the buildings in Plate IV. and Figs. 3 and 4 to others? Wherein does the difference between one and the others of the three lie? There is certainly a general identity shared by each of them—an

the façade. Why should not these buildings be classified as, broadly speaking, of the same style? Once more: why should we make a stylistic distinction between the buildings shown

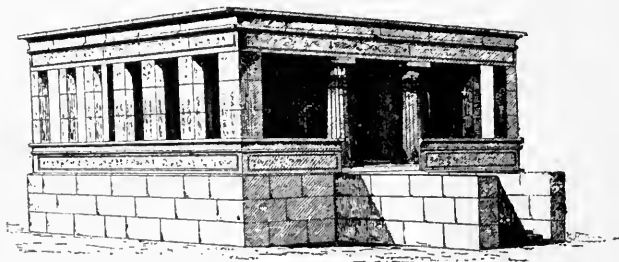


FIG. 1.—AN EGYPTIAN TEMPLE.
(Built by Amenophis III. at Elephantiné.)

appearance of kinship which is striking and would lead the observer at first rather to group them together as members of one family than to separate them as distinct. Again, the buildings given in Plates V. and VI., are they not like brother and sister—one, the heavier, masculine manifestation, the other, the

in Plates VII. and VIII., for are not practically the same forms exhibited in both structures?

The primary purpose of every building is to *inclose space*, which is accomplished by means of (1) vertical partitions (that is, up-and-down partitions), and (2) horizontal partitions. The

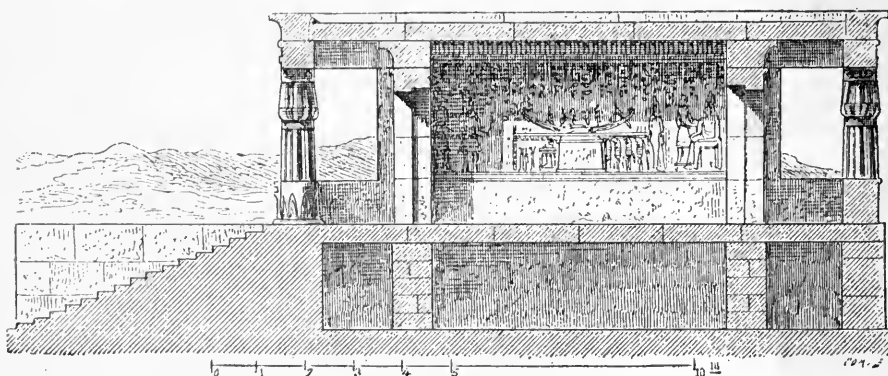


FIG. 2.—SECTION OF EGYPTIAN TEMPLE AT ELEPHANTINÉ.
(From Perrot and Chipiez's "Art in Ancient Egypt.")

lighter and more graceful, feminine development of the same type? In both edifices there is the threefold vertical division, in the centre section of which is the main door with a small arcade above it, then higher still a single window sheltered under a large arch that bears up the gable termination of

first of these gives us walls and pillars and piers—the solid space-occupying parts of our buildings; the latter gives roofs, the space-covering parts of our buildings. Every part of a building is either a wall or a roof; that is, it incloses space or it covers space. For instance, a pillar is but a piece of



FIG. 3.—ROMAN TEMPLE.

Vienne, France.

a wall made round in shape, and an arch, as over a doorway or a window, a small roof. So with all parts of a building; it matters not to what purpose they be put, they are primarily either walls or roofs. Now, in all wall-forms—flat screens of masonry, round pillars and square piers—the constructive principle involved is the same. Brick or stone rests upon brick or stone, receiving pressure from above, transmitting it to what is beneath.

Egypt, Assyrian, Persia and Greece; the “arch” style, the Roman, the Romanesque, the Gothic and, in part, the Renaissance. (See Figs. 5, 6, 7, 8 and 9.)

But, obviously, this classification is too wide, it admits too many differences. The similarity of construction between the Egyptian and the Grecian temple goes a very small way toward establishing identity. Some writers have made construction the basis of their classification and, for instance, define the

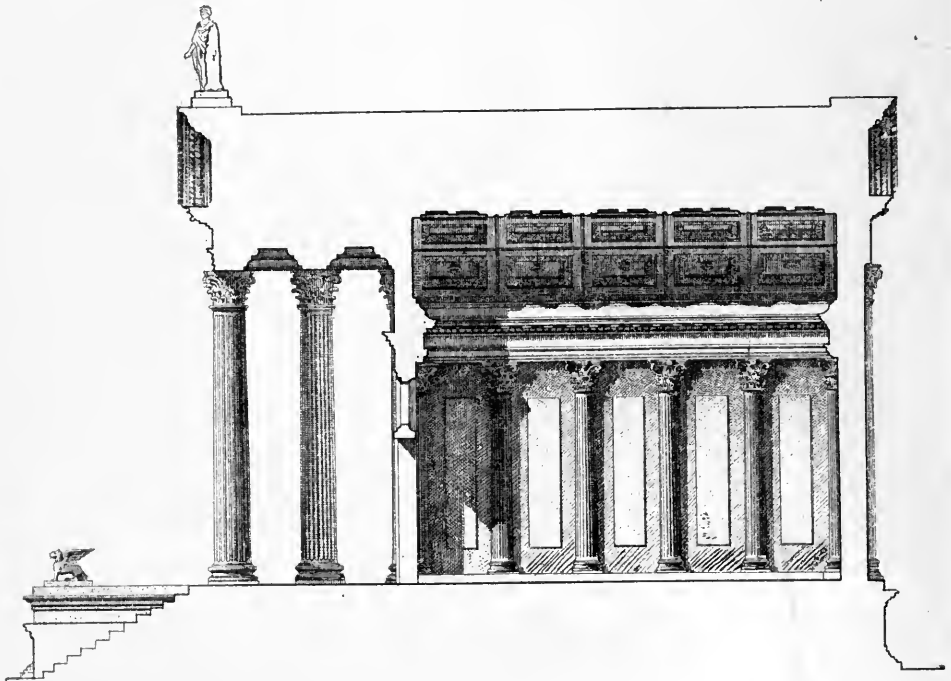
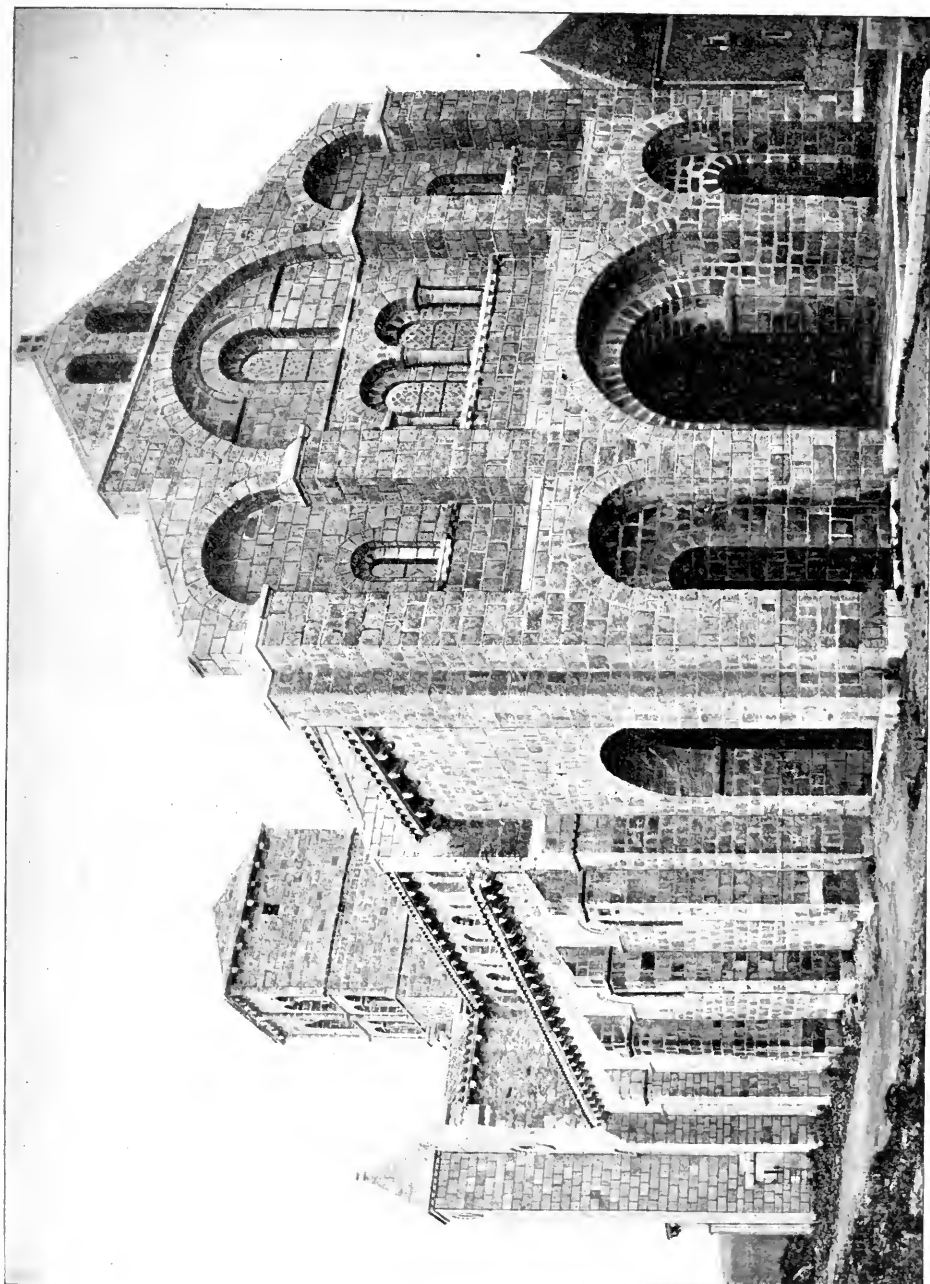


FIG. 4.—SECTION OF ROMAN TEMPLE.

Vienne, France.

In roof-forms, however, it is possible to employ two principles, but only two principles — 1. The lintel-principle, as in the horizontal roof or square-headed window opening; 2. The arch-principle, as in the vaulted roof, be the shape of the vaulting what it may, and the domed roof. Now, plainly, as all buildings that man has yet erected are either “lintel-roofed” or “arch-roofed,” we could proceed to classify our structures into two styles, according to the method of construction adopted in their erection. The “lintel” style would include the buildings of ancient

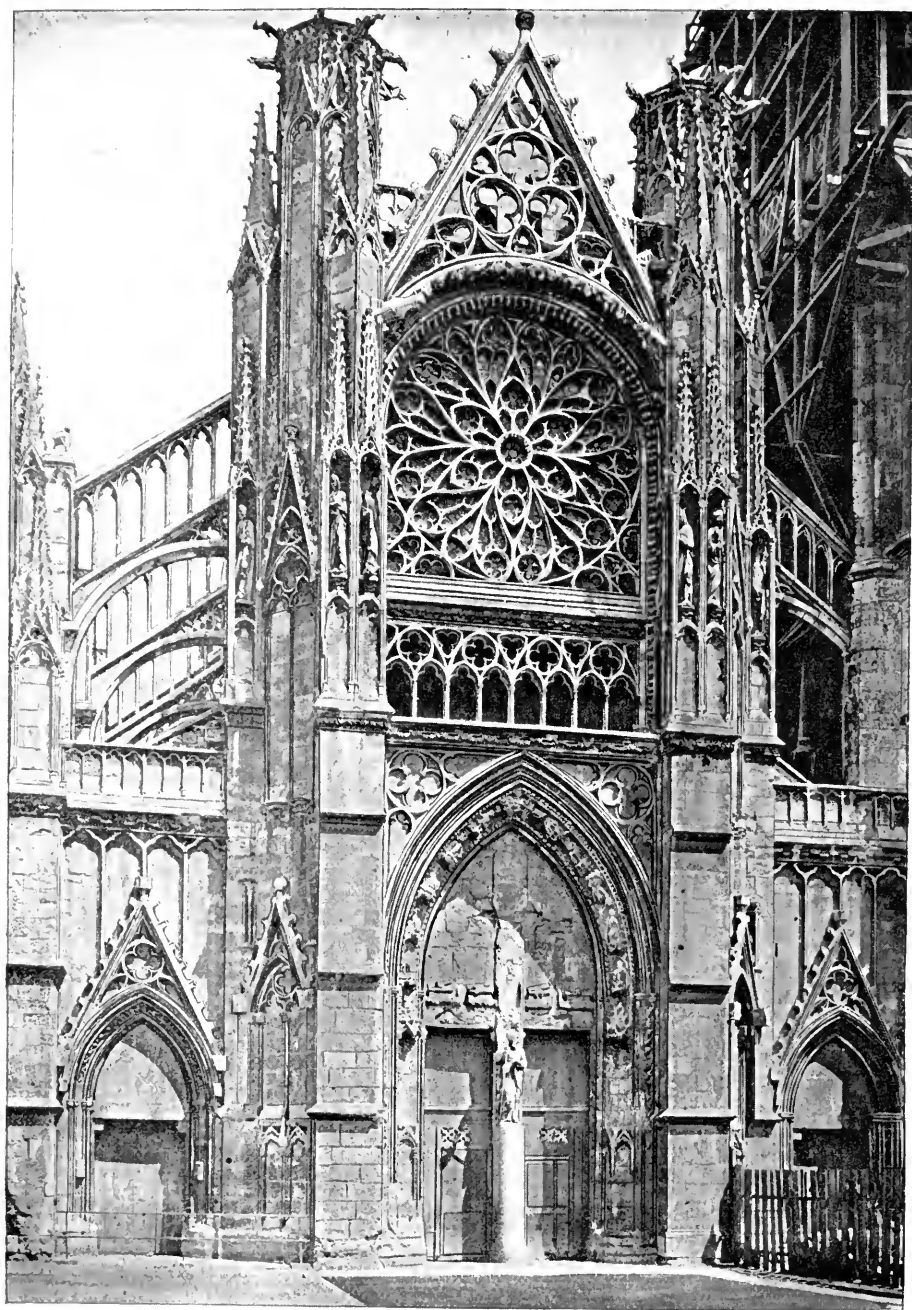
Gothic style as the style of the pointed arch or the style of a peculiar system of vaulting, but classifications of this nature are inadequate, for this reason: the essence of style is not a mechanical principle, a method of building. Indeed, at the outset did we not in a way separate building from architecture? We found that architecture is the revelation through building of a *certain condition of mind*. Construction is to the architect what words are to the poet. Words in themselves are not poetry, neither is building, pure and simple, architecture. Words become



Church at Chatel-Montagne,

PLATE V.—ROMANESQUE BUILDING,

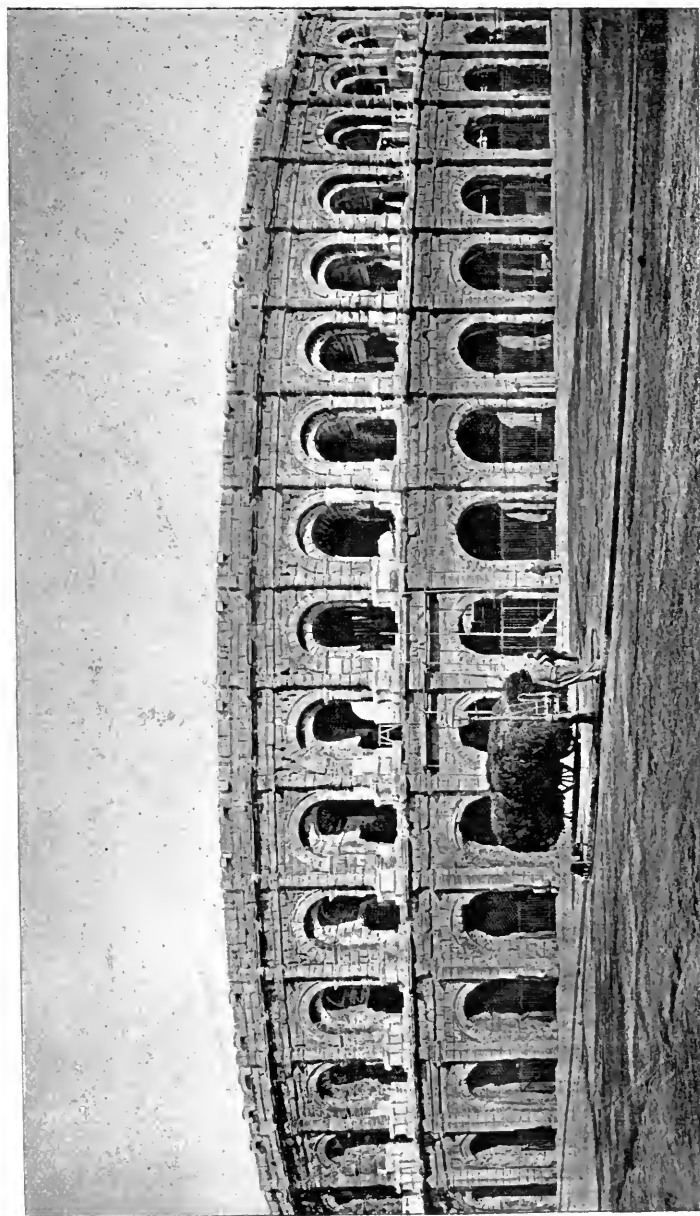
Allier, France.



St. John's Church,

PLATE VI.—GOTHIC BUILDING.

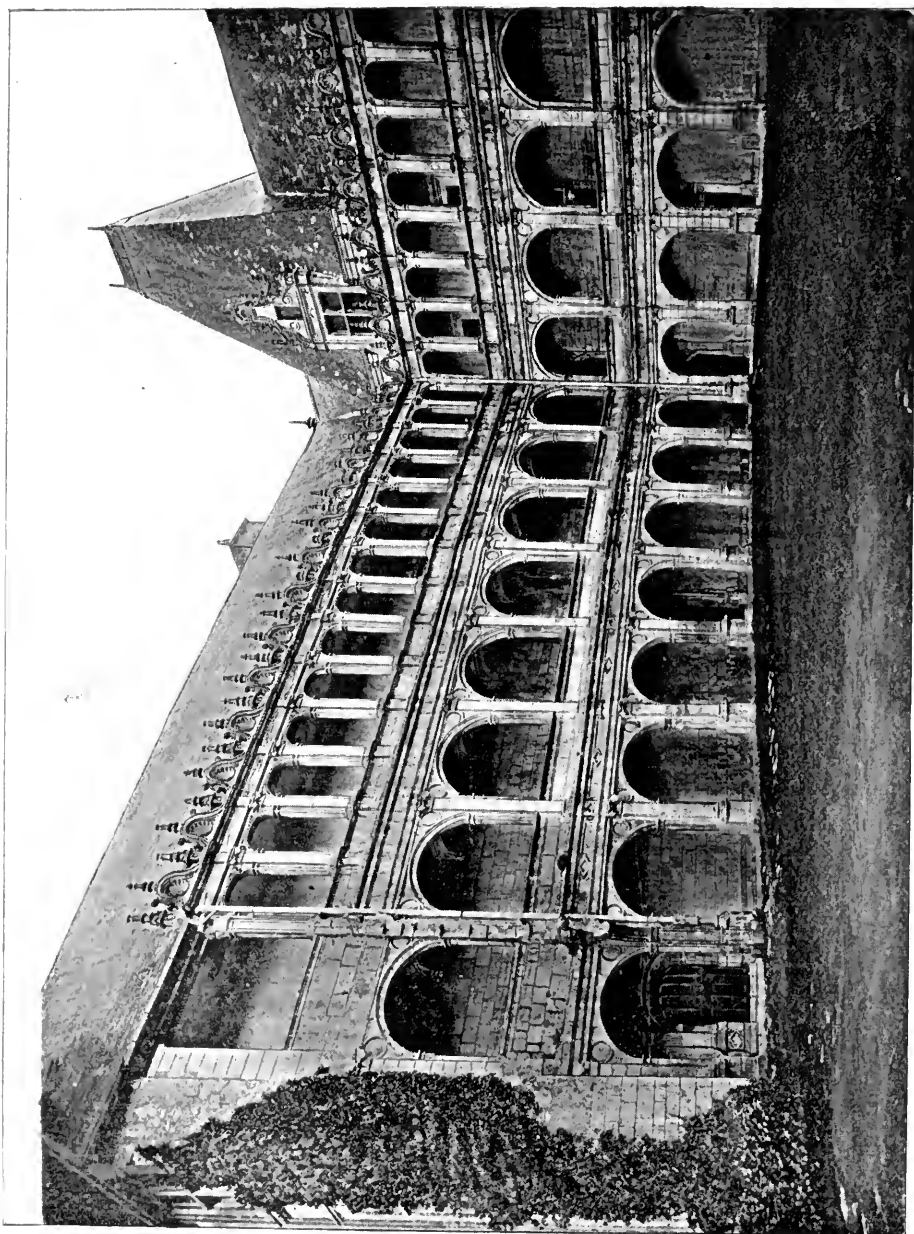
Dieppe, France.



Nîmes, France.

PLATE VII.—ROMAN BUILDING.

The Arena,



Chateau de Tarascon.

CHATEAU DE TARASCON — RENAISSANCE BUILDING.

Charente, France.

poetical only where they are so arranged that they indicate, are the indexes, the outward and visible signs, the voice of a poetical mood; and in turn, building becomes architectural only when it reveals a certain frame of mind, certain

of construction can possibly bridge the enormous difference between the genius of the two peoples. So, too, between the Roman style and the Romanesque, there is very much less constructive difference than artistic differ-

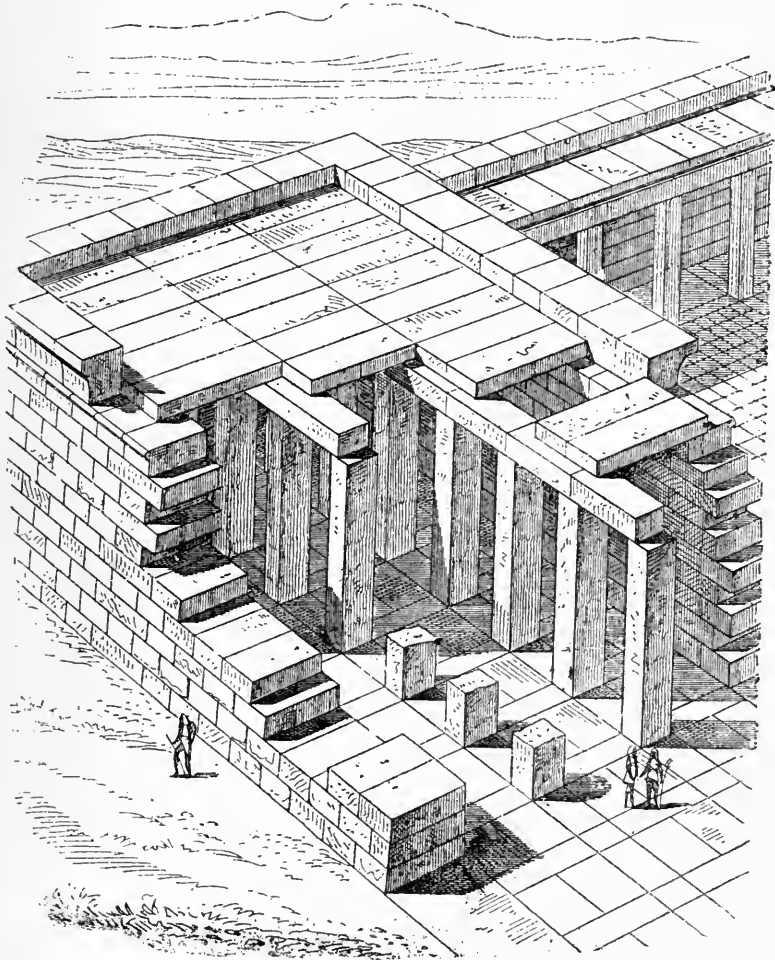


FIG. 5.—LINTEL CONSTRUCTION.

(Employed wholly in Egyptian, Assyrian, Persian and Grecian styles; partly in all other styles.)

artistic ideas and feelings. The difference, consequently, between styles lies chiefly in the fact that each is the expression of a different state of mind. The Egyptian constructed his temples upon the same principle and in some cases almost in the same form as the Greek. But the one reveals to us the Greek mind and the other the Egyptian mind, and no similarity

ence. There is nothing *constructive* in a Romanesque building that would have been very novel to a Roman architect, but the style, the expression as it were, of the building would have been like a new language to him.

The foregoing remarks about style have been prompted by the consideration that usually the student classifies buildings *exclusively* according to some

marked constructive feature, and entirely overlooks the really vital fact which the construction reveals. In his eyes a building is Gothic *because its arches are pointed*. This is a false conception, and though at first it is not likely to lead the student into very grave errors, it is better to start at once with as exact ideas as possible. It is true, of course, that when men's mode of thought or feeling change, forms of expression change also. We could not know that there had been any inward change unless it were indicated out-

But with the course of time the genius of the Gothic architects became fanciful and exuberant, and before the close of the Gothic period the severity of the old architecture was quite superseded by an extravagance of ornamentation. Yet there had been no radical change in the methods or the principles of construction employed. Let us remember that in architecture as in literature—*le style c'est l'homme*—style is individuality; and style really changes as men change. So, to keep to our example, it is not merely the use of pointed arches or

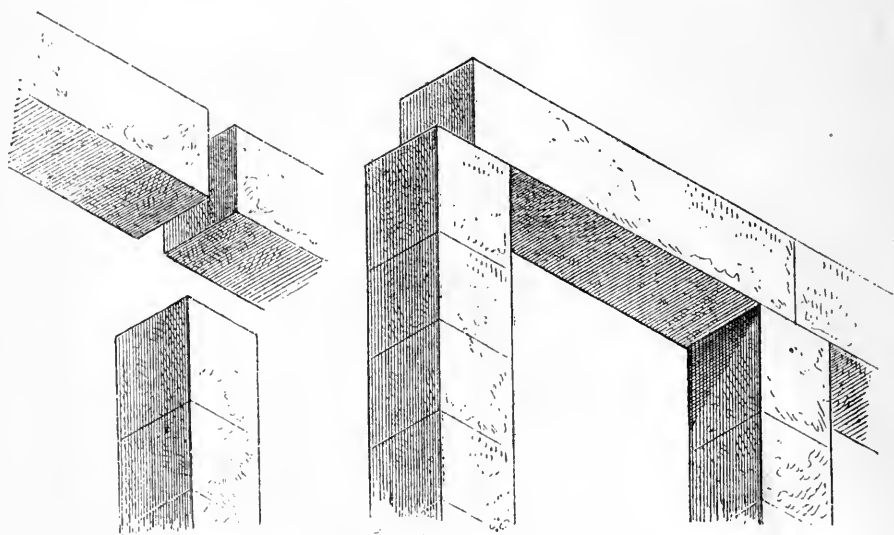


FIG. 6.—THE ELEMENTS OF LINTEL CONSTRUCTION.

wardly. But these changes may be expressed—and indeed most frequently have been expressed—rather by subtle modifications in the relation to one another of parts of buildings, by changes in proportions, by the increase or the decrease of the emphasis of decoration than by new methods of construction. Between the latest Romanesque buildings and the earliest Gothic buildings there is less difference than there is between the earliest Gothic and the latest Gothic edifices. At first, Gothic buildings were simple and severe, sparingly ornamented. They were expressions of taste and temperament very closely allied to the taste and temperament of the Romanesque builders.

a system of vaulting that is the essence of the Gothic style, but the temperament of the people who erected the Gothic buildings. This temperament found expression, not only in methods of construction as in pointed arches, but in the entire building—in sculpture, in carving, in disposition of masses, in proportions, etc. The student, then, should endeavor to read “style” in the whole building. A single constructive feature is only a clue, even though a clue sufficient to warrant certainty of classification. Indeed, some merely mechanical building methods enable us to roughly assign to an edifice its place in the history of architecture, but a practice in the stone mason’s trade is

not one of the elements of "style." And yet, that very practice might be necessary to an adequate expression of the "style."

tion and style are totally independent of one another and completely unrelated. Certain methods of construction are necessary to the expression

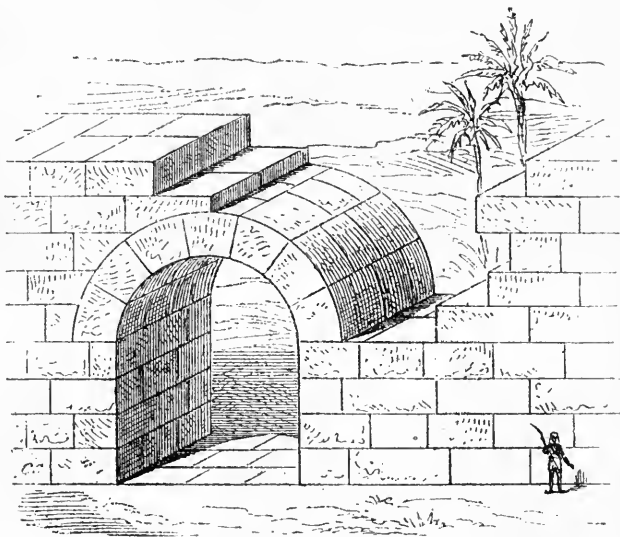


FIG. 7.—ARCH CONSTRUCTION.

(Employed chiefly in Roman, Romanesque and Gothic styles. Also used partly in Renaissance and modern buildings.)

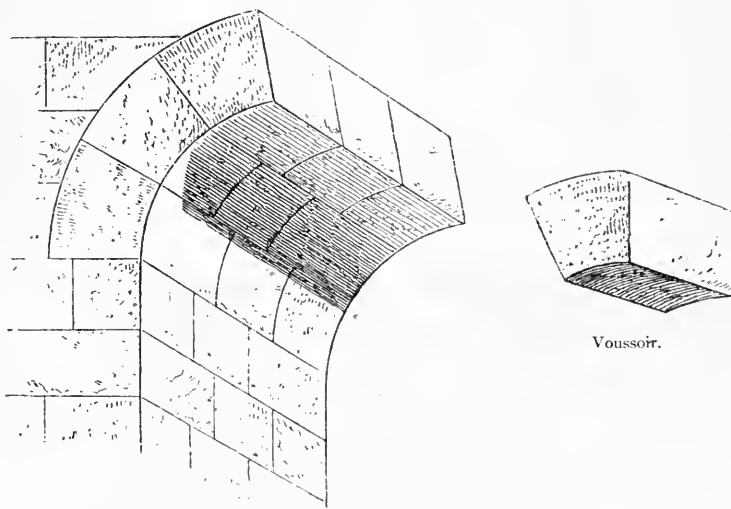


FIG. 8.—THE ELEMENTS OF ARCH CONSTRUCTION.

In reading the foregoing the reader must be careful not to adopt *any* partial view of the subject. Because style is not essentially the use of some single prominent constructive principle or form, it does not follow that construc-

tion of a style. Not infrequently men have hit upon new methods of construction in endeavoring to meet utilitarian necessities and these new methods have stimulated new artistic expressions. But, after all—and this is the point for

the student to keep in mind—while giving due attention to methods and principles and forms of construction, they are not the essence of style. Style is manner, be it an individual's manner, the manner of a people, the manner of a period. The Greek, consequently, though he possessed all the technical knowledge of the mediæval builders, could not possibly have produced a Romanesque or Gothic building. Knowledge of forms and principles would

not—nothing of the kind is quite the case. Their temperament may approximate to the temperament of a past age, but they do no more than approximate to it. As Goethe says, "The Past is a book seven times sealed." Our architects are using the phraseology of another age; they cannot possess its spirit. All modern buildings, whatever their form or semblance may be, are in the modern style.

How essential the spirit is to style

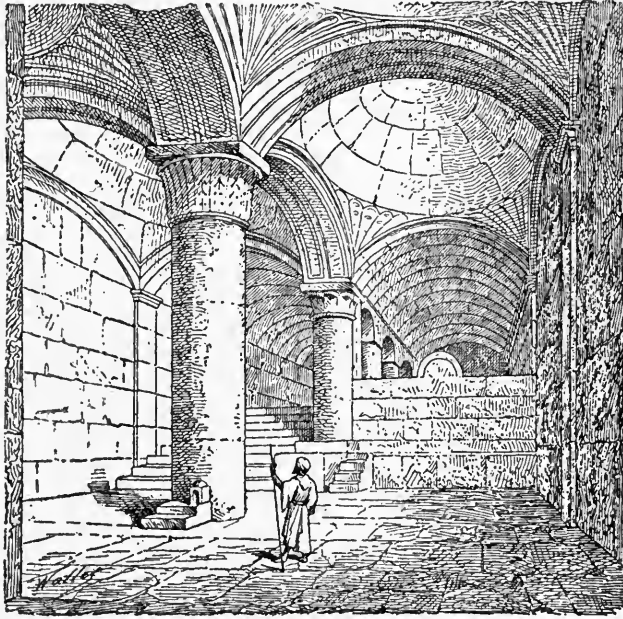


FIG. 9.—ARCH CONSTRUCTION, SHOWING DOME AND ARCH.

have assisted him little when the right spirit was lacking. We may find analogies to the foregoing in literature. The spirit of the writer is what we read behind the words; and the writer shares the spirit of his age and country. To make use, for instance, of Elizabethan phraseology would not put a writer in possession of the Elizabethan style. The mind of the age would be missing and *that* is the soul of the style. From this it follows that, strictly speaking, though the architects of our day assert that their designs are in the Gothic style or the Romanesque style or what

may be exemplified by another example. In painting, one artist may copy a picture done by another artist, but no matter how faithful he may be to the original he cannot quite reproduce it. There will be something more or something less in the copy than in the original. The style, the individuality of the creator, in its most subtle manifestations, will not be present in the reproduction.

So, while accepting certain forms or methods is roughly indicative of style, the architectural student should endeavor, as it were, to read through

the building to the mind that produced it. Only in this way can architecture be fully appreciated and thoroughly understood.

As a lesson in "style," from this point of view, we affix to this chapter some examples of sculpture of different

periods. Each of the examples is an attempt to render, in whole or in part, the human form, and here no consideration of method, no difference of "construction" intervenes to distract the observer's attention from "style" as an expression of temperament.

H. W. Desmond.





PLATE IX.—EGYPTIAN SCULPTURE OF THE ANCIENT EMPIRE.
(The famous statue known as The Sheikh-el-Beled.)

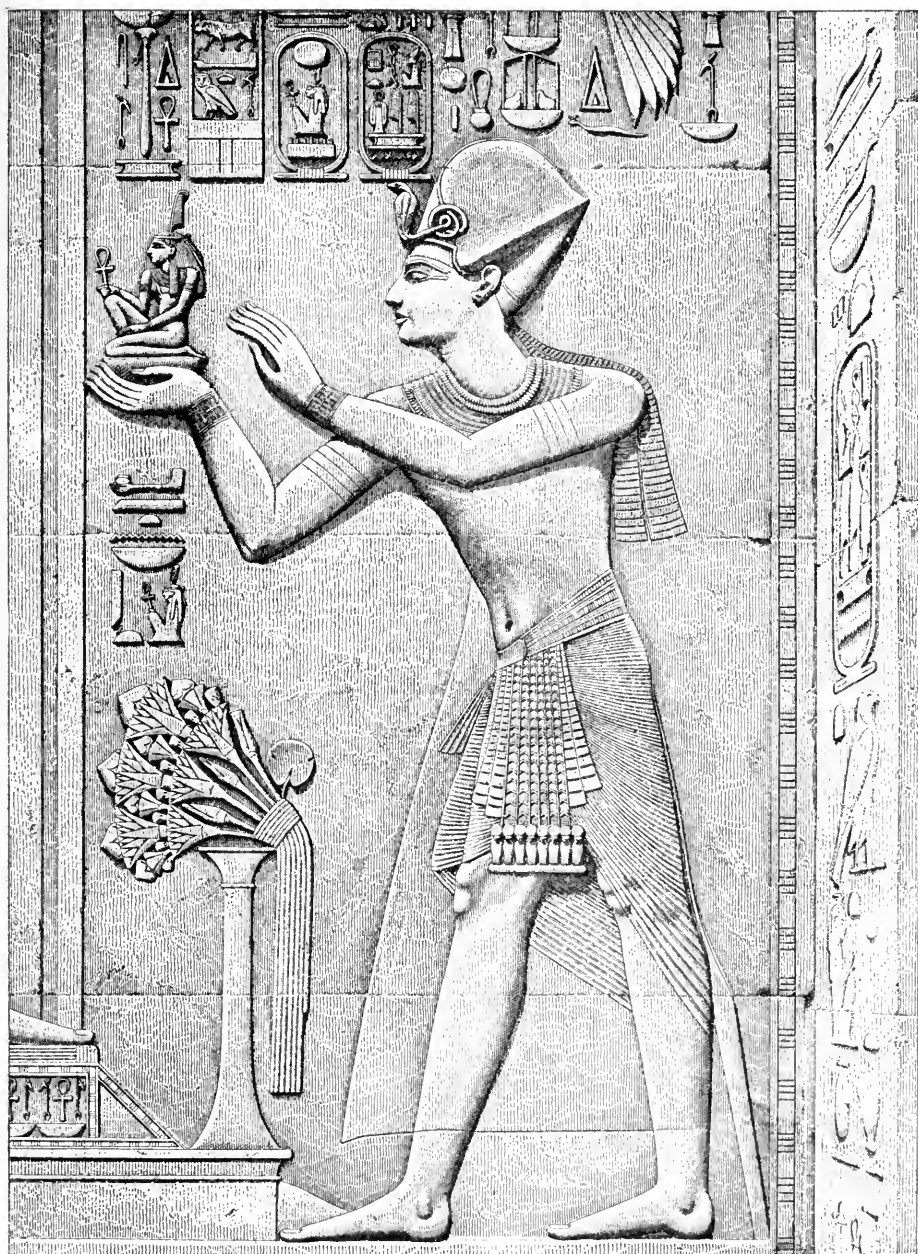


PLATE X.—EGYPTIAN SCULPTURE OF THE NEW EMPIRE.
(Bas-relief of Seti I. in Temple of Abydos.)



PLATE XI.—GRECIAN SCULPTURE.
(The Hermes of Praxiteles.)

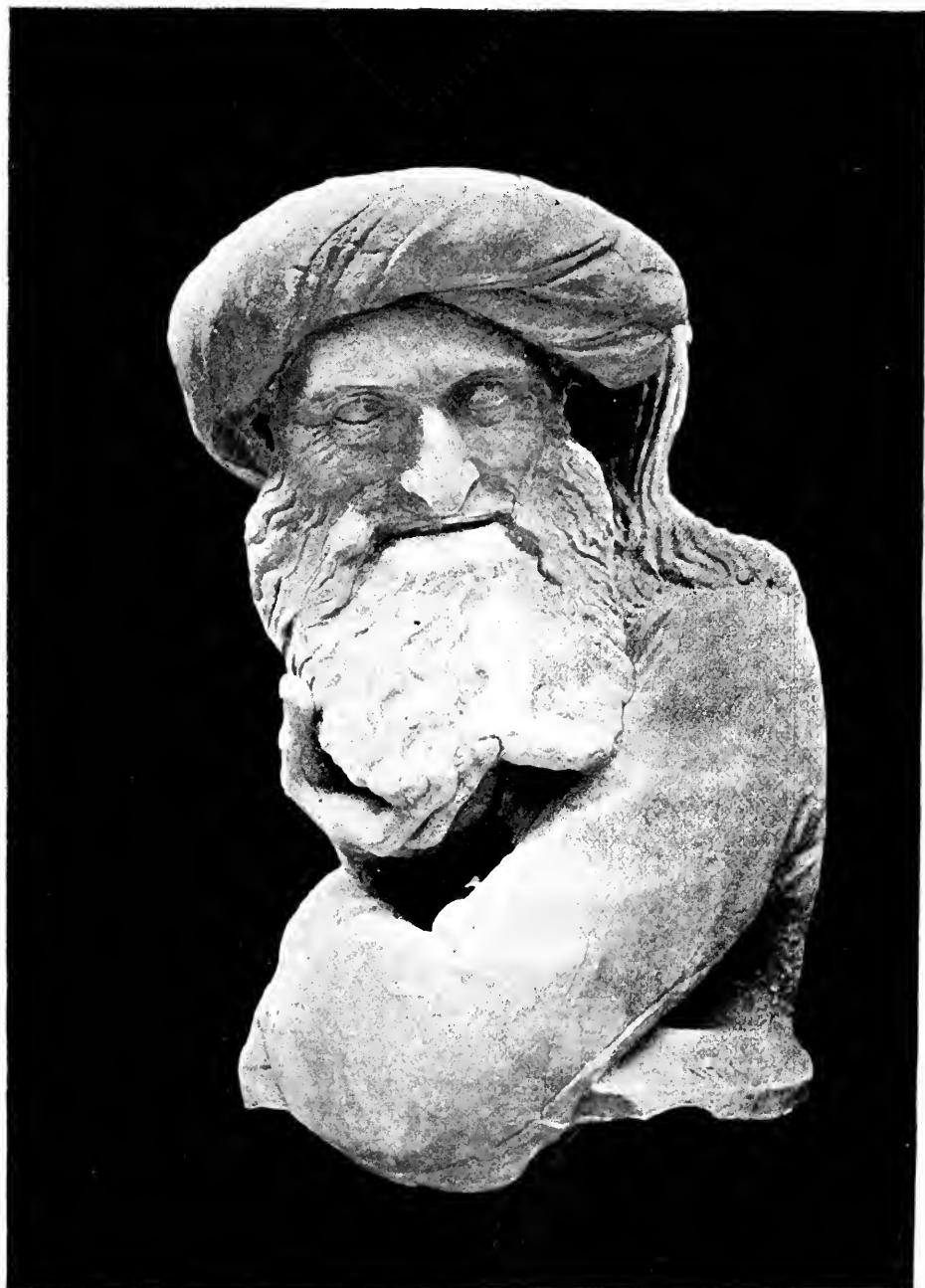


PLATE XII.—MEDIEVAL (XVTH CENTURY) SCULPTURE.
(Bust of Jacques de Lichtenberg, Strasbourg.)



PLATE XIII.—MEDIEVAL (XVTH CENTURY) SCULPTURE.
(Bust of wife of Jacques Lichtenberg, Strasbourg.)

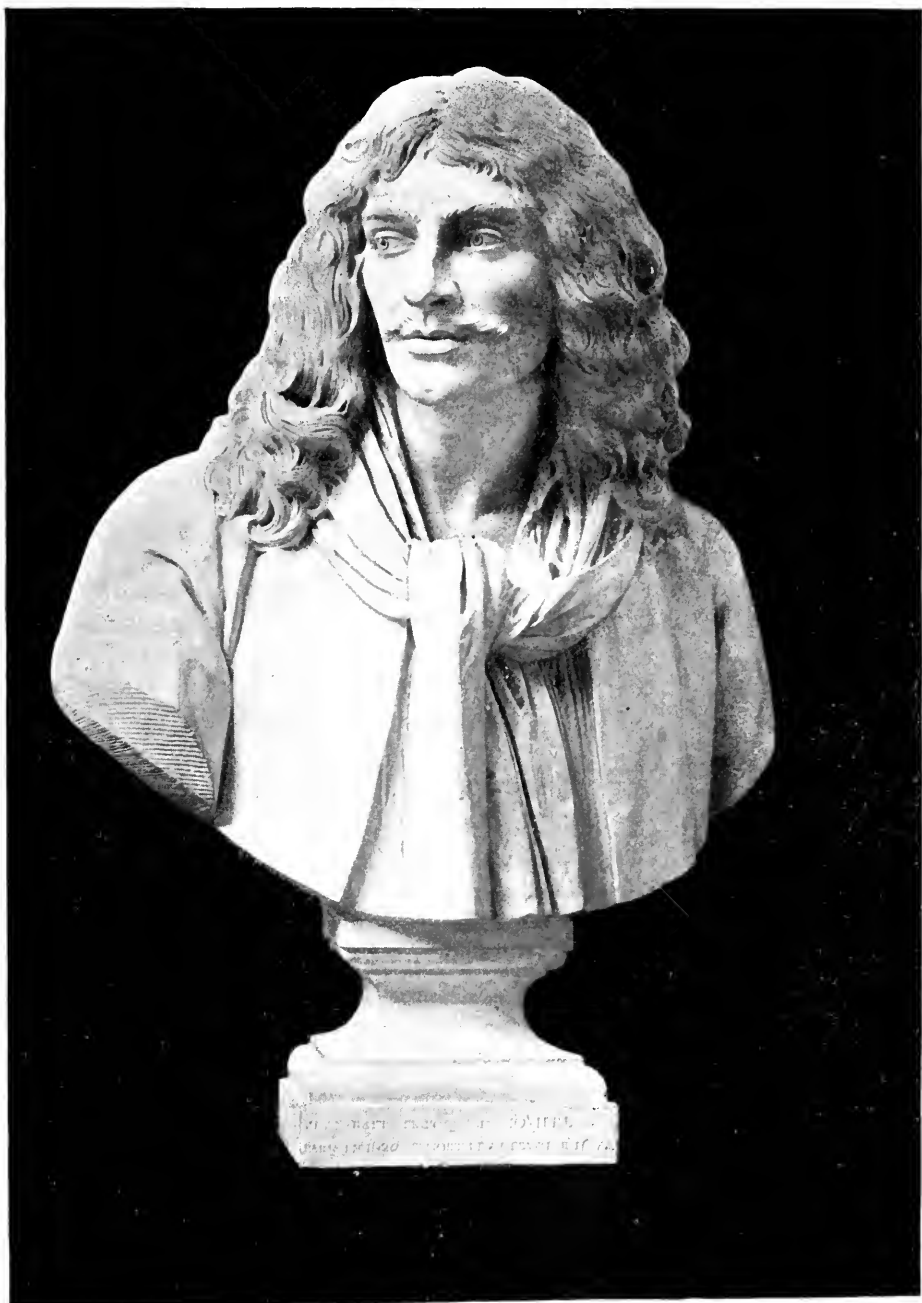


PLATE XIV.—RENAISSANCE SCULPTURE.
(Bust of Molière, by Houdon.)

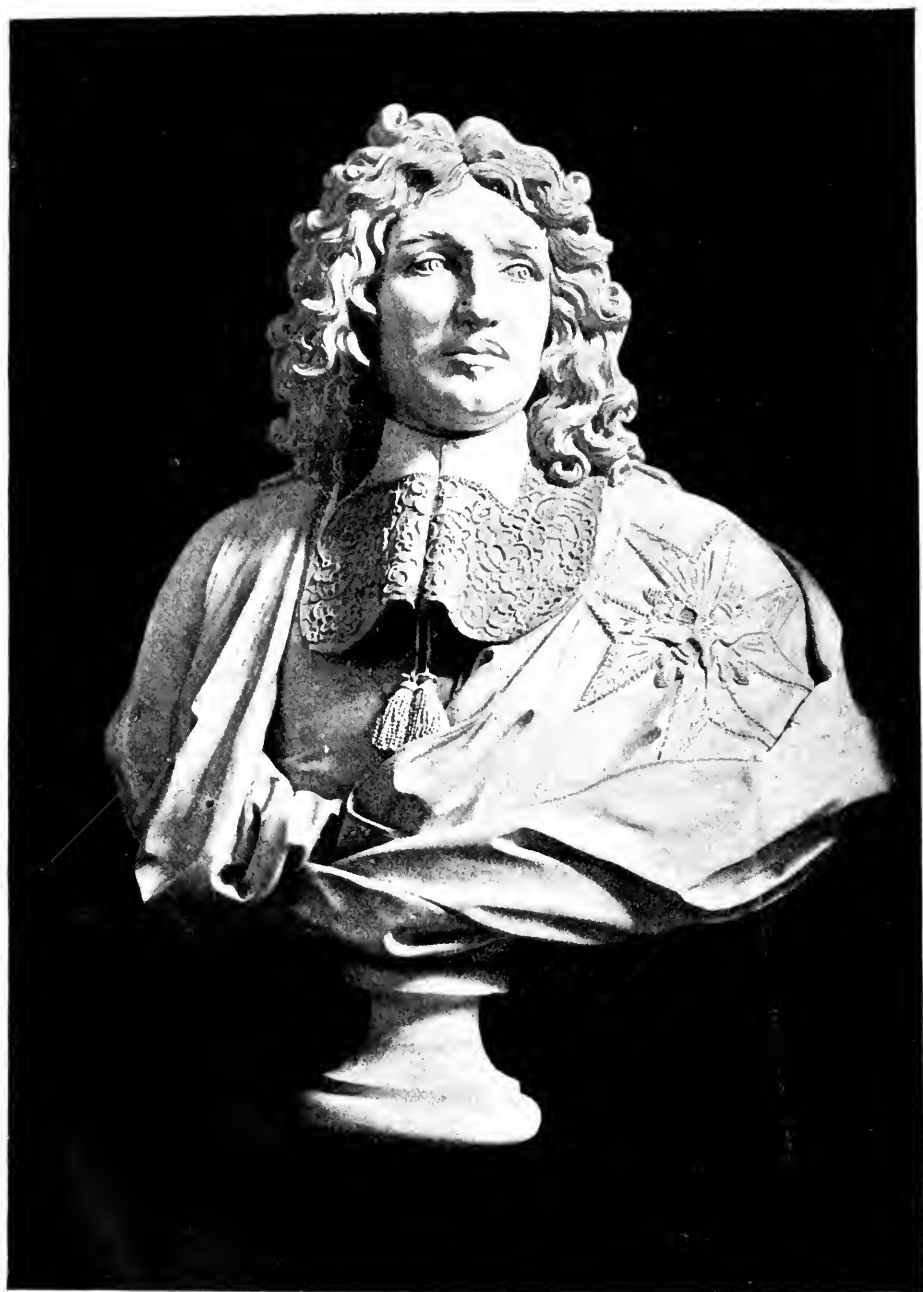
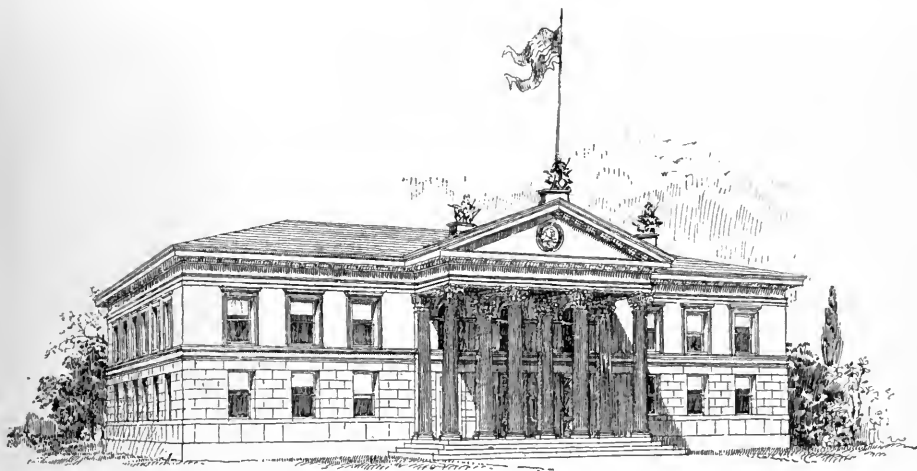


PLATE XV.—RENAISSANCE SCULPTURE
(Bust of Colbert, by Houdon.)



NEBRASKA STATE BUILDING.

Henry Voss, Architect.

STATE BUILDINGS AT THE WORLD'S FAIR.



THE very great success of the main Exhibition buildings at Jackson Park, designed and erected under the supervision of the Director of Works,

makes the architectural failures of the Exhibition all the more conspicuous and all the more lamentable by making it plain that they might have been avoided. The great architectural success of the Fair is not the merit of even the best of the buildings so much as it is the unity and the majesty of the group they compose. The unity has been obtained by the symmetrical plan adopted for the main water-court and its borders and by the agreement of the designers upon a very few simple and general rules of treatment.

Doubtless, picturesque irregularity is, or may be, an attractive architectural quality, as legitimately as formal stateliness and symmetry. If another symmetrical court had been provided at the opposite end of the grounds from the rectangular water-court, and the architects of the State buildings had been subjected to even the few conditions to which the architects of

the main buildings on the basin subjected themselves, we should probably have had a monotonous and uninteresting repetition, on a smaller scale, of an effect once attained with a success of which a great part is due to the greatness of the scale. But on the other hand there was a great danger in leaving the States free to design and erect each its own building upon as extensive and conspicuous a plot as it was able to secure, and at as great a cost as it chose to incur, without trying to establish any general disposition by which each building should enhance the effect of its neighbors and contribute to the effect of the entire group. To do this with success, considering the wide range of the State buildings in magnitude and in costliness, would have been a problem worthy of the highest architectural skill, and demanding such skill. A general scheme adopted by the architects in consultation, and loyally followed out by each, might have given the impression of an ensemble while leaving to each designer all the liberty that in such a conjunction any reasonable and artistic designer would claim. It would have made a quarter of villas, as the architects of the water-court have

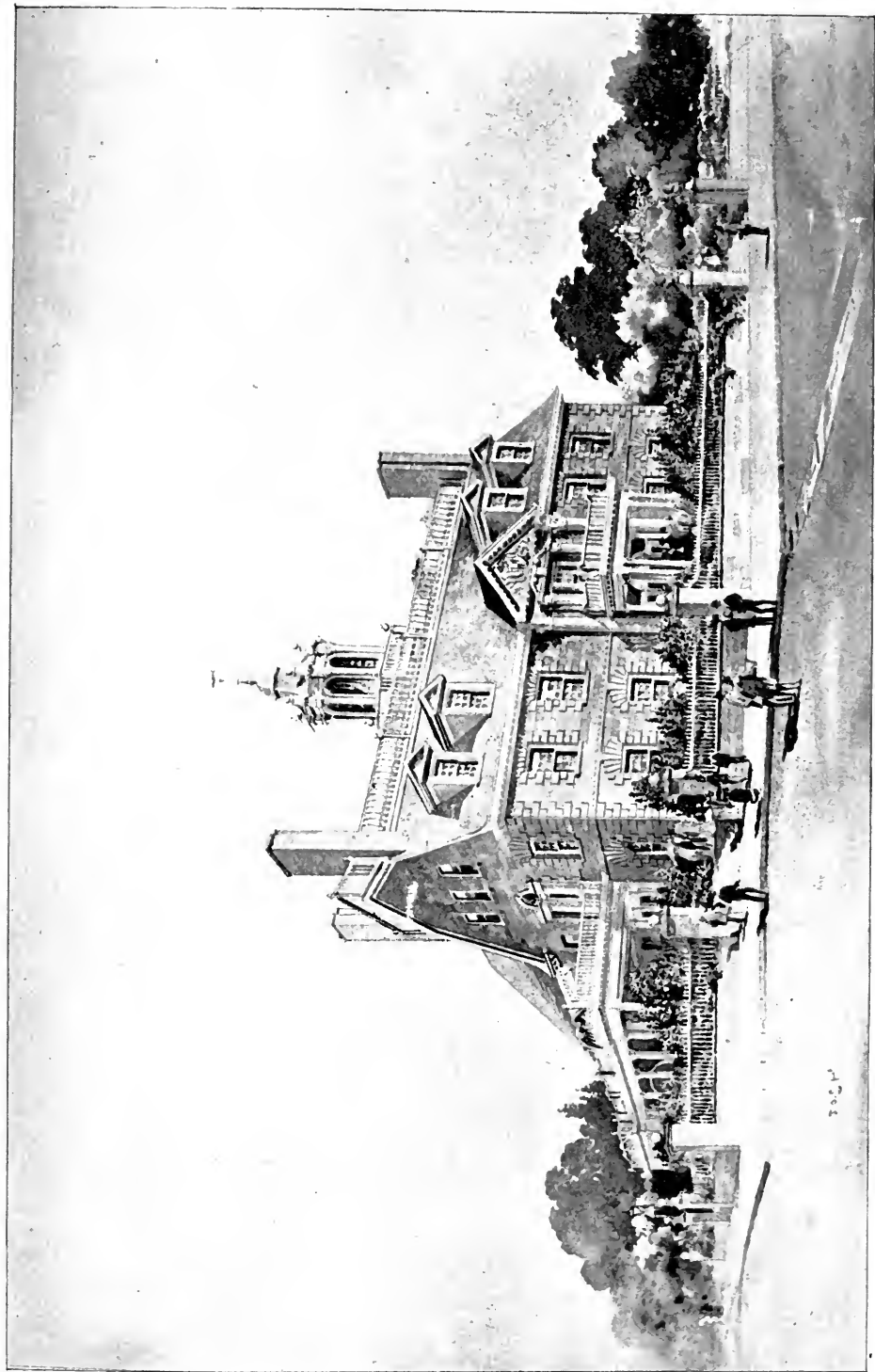
made a quarter of palaces, of which, as in the other case, the highest excellence of each individual building would have been its contribution to the general result.

That is not the way in which we manage such things, but it is precisely by departing from the usual American way of managing such things that we have to show, in the main Exposition buildings, something of which we are all proud, and from which we expect so extensive and beneficent an influence. That will only come, however, if the lesson is rightly learned. A reproduction in miniature, around the principal square of a new town, of the main Exposition buildings, of which the impressiveness depends so largely on their scale, would be merely petty and ridiculous; but it is what we are more in danger of realizing than the subordination and co-operation that are applicable, not only to every group of public buildings, but to every group of private buildings, and that our ordinary street architecture so lamentably lacks. Of course in detached buildings, standing each in its own grounds, the qualities of co-operation and subordination must be manifested quite differently from the manifestation of them in a great court bordered with palaces. Picturesque irregularity itself, to be artistic and architectural, must be intended, and the fronts that make up the effect of it must be considered with reference to each other. Higgedly-piggedly is no more desirable in a collection of villas than in a plaza of palaces, and a group of buildings that gives the effect of a competition rather than of a co-operation cannot be architecturally a group at all. This is the case with our ordinary building, alike urban, suburban and rural, and though of course it is most distressing in the first case it is distressing, also, in the others. To avoid it, consideration for what has been done already is necessary in ordinary cases, and specially so in an extraordinary case like that of the State buildings in Jackson Park, where a number of buildings that are to answer the same general purpose, with great difference in size and cost, are to be erected all at once. Without consulta-

tion the general effect, whatever may be the individual excellence of the buildings and even though they be all good, taken separately, must be that of higgedly-piggedly; and such is unfortunately the general effect of the State buildings at the World's Fair. A Grecian temple, a Californian mission, an Italian villa, a Swiss chalet, a Colonial mansion—how can anything but higgedly-piggedly result from an aggregation of these, strewn about promiscuously and without reference to each other, no matter how plausibly each of them may be done?

This is a pity and a misfortune, but it is perhaps unavoidable. Certainly nobody in particular is to blame for it and it could have been avoided only by the excuse of some such general supervision as has been employed with such success at the other end of the grounds. It probably did not occur to the various State commissions or their architects to arrange for such a supervision and submit themselves to it, and it would in any case have been very difficult to arrange. Besides, as we have said, diversity is here to be expected, and even to be desired, so long as it is a foreseen and calculated diversity. Even buildings of so widely different types as those we have enumerated might have made up something like a whole, if they had been arranged in a series of groups, according to their architecture. We must deplore the absence of such an arrangement, and the lament may be useful, not only for proof, but for edification in the event of another National Exposition, which may follow this one before its lessons are forgotten, as this has followed the Centennial.

Apart from this consideration, controlling as it ought to be, it is manifest that a building which is a State exhibit ought to be as characteristic as it is possible to make it, and to suggest the history of the commonwealth which it represents. It is curious and to be regretted how little attention most of the designers seem to have paid to this consideration. The original thirteen States surely have histories which supply architectural motives, and most of them buildings that would serve for



MASSACHUSETTS STATE BUILDING.

Peabody & Stearns, Architects.

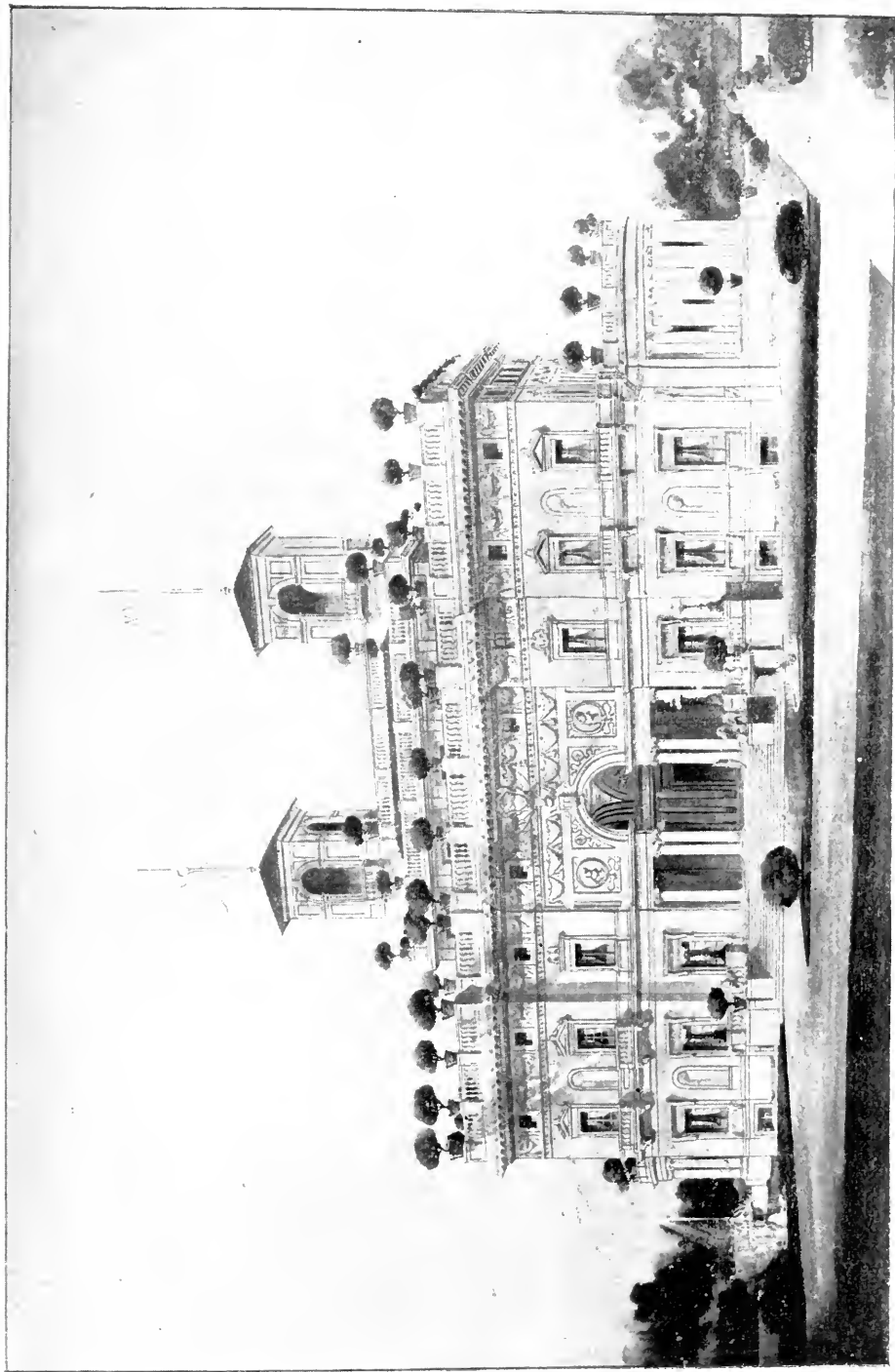
suggestions, if not for literal reproductions.

The architects of Pennsylvania and Massachusetts are almost alone in having gone back to Colonial times for their models, and the result has vindicated them very handsomely. Independence Hall is not a beautiful building, but for the purpose of a World's Fair its historical interest outweighs its architectural disadvantages, and the modifications the architects have made in it are faithful to the spirit of the original. The reproduction for the State building of Massachusetts of a well-known Colonial mansion, in the Hancock house, is about the most distinguished success of the whole series. It has a positive architectural as well as a positive historical interest and in several important respects it sets a model for current domestic building. While it was impossible to make it congruous with all its surroundings, it is in perfect keeping with those of its immediate surroundings that were under the control of its projectors. The inclosure and the quaintness of the old-fashioned garden explain to us the avidity with which Hawthorne seized upon such scanty materials of romance as the New England of his time afforded him, and form a little chapter of Colonial history more vivid and instructive than the written page.

Suppose all the "Old Thirteen" had been represented by structures reproduced in the same spirit; what a teaching and what a benefit would have been imparted to everybody who looked at them. Suppose New York had been represented by a reproduction, as faithful as could now be attained, of one of the most elaborate of the houses of the Dutch burghers of Albany, or by the reproduction of a public building such as Federal Hall in Wall street, upon the portico of which Washington was inaugurated; and Maryland by such a mansion as Homewood, and Virginia by one of the ancient "seats" upon the banks of the James or the Rappahannock, and South Carolina by a reproduction of the Pringle house which is still extant, or some other equally characteristic reminder of colonial times. There would have been no difficulty

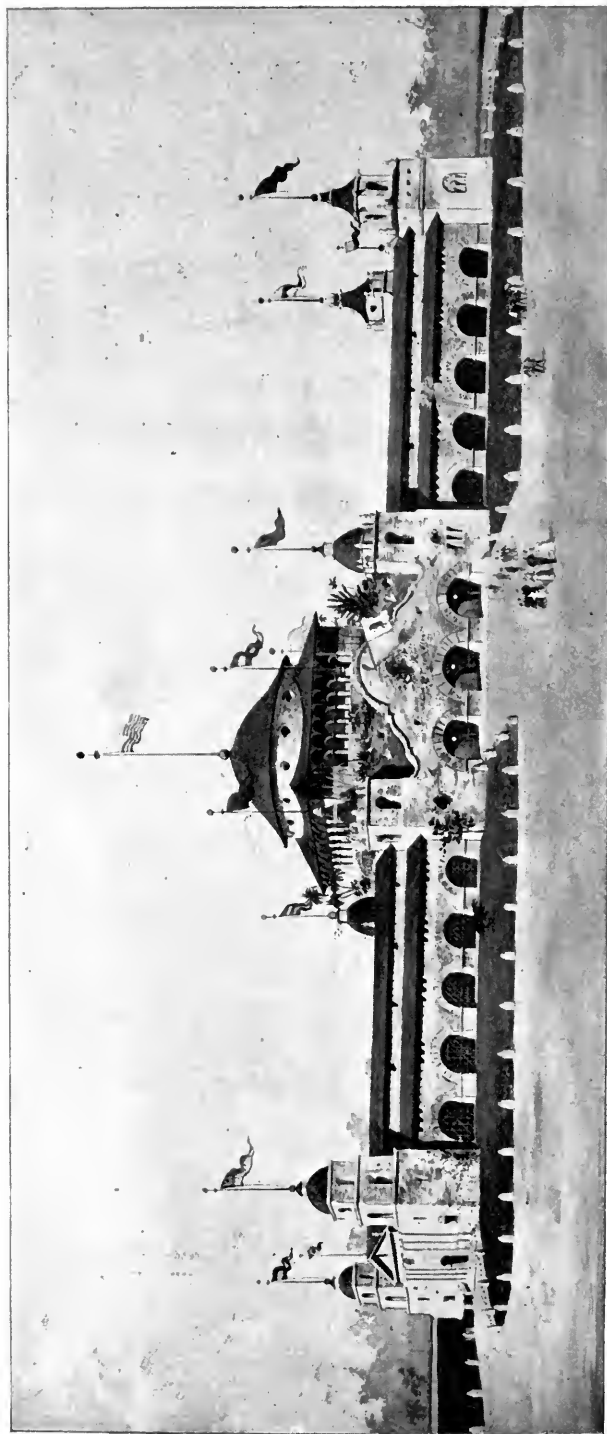
if the purpose had not been wanting and if all the States named had been represented by characteristic buildings, in making a group out of such structures that would have been entirely at peace with itself and that would have been far more interesting than the individual erections that composed it, interesting as these would have been to natives and foreigners, to students of history and life and manners, as well as to students of architecture. A Colonial "exhibit" has been arranged in behalf of the State of New York, and a very interesting exhibit it is, but how greatly it would have gained if it had been housed in an authentic example of Colonial architecture! It was at one time proposed to reproduce in Jackson Park the old Van Rensselaer house, now left standing in a quarter of Albany abandoned by the march of improvement. It was a pious suggestion, and it is a pity that it was not carried out, although the mansion is neither the oldest nor the most interesting that could have been chosen. It is, however, a decorous and respectable example of the craftsmanship of the eighteenth century, and some of its interior detail has the attractiveness that always belongs to specimens of workmanship that is clearly purposeful and enjoyed, while some of it has a quaint grace that is distinctly an artistic quality. Our point is that a State building should be, so far as possible, distinctive and racy of the soil, provided there be any elements of race and distinctiveness to be had, and in the case of the older States there is no question about that.

Nobody would maintain that the building actually erected for New York was in any direct or specific way characteristic of the State. It is a reproduction, to be sure, but a reproduction of an Italian villa of a period that has nothing to do with the history of New York, being about a century after the discovery of America, and half a century before the colonization of New York. It is so literal a reproduction, that a newspaper critic has been tempted to suggest that its author should have at least forborne to charge his clients that part of his commission



NEW YORK STATE BUILDING.

McKim, Mead & White, Architects.



CALIFORNIA STATE BUILDING.

A. Page Brown, Architect.

which is supposed to compensate for the design. This is rather too harsh a saying. There is, of course, no attempt in the building to disguise that its architectural motive is that of the Villa Medici; but the modifications are great enough to show that the original has been considered, instead of being copied without consideration, and successful enough to entitle the adapter to credit as a designer, as well as an appreciator. The central arch, flanked with columns that support the entablature at its impost, with sculptured panels in the spandrels, and the belvederes that mark the boundaries of the central building are reproduced with verisimilitude, if not with servility, and these things, doubtless, make up so much of the composition of either building as the spectator carries away with him. But the balustraded roof-terraces of the New York State building, while they have their prototypes in the Roman villa, are legitimate variations upon a borrowed theme; the treatment of the wings and their relation to the centre, are so different as to effect a change in the massing and proportion of the building; the third story of the original is reduced to a rich attic, and for the semi-circular colonnaded wings the original does not furnish any suggestion. And all these things are improvements, inasmuch that no instructed observer would fail to prefer the amended design of the Villa Medici as executed in Jackson Park, to the design as executed by Annibale Lippi himself. As a "lordly pleasure-house," standing alone in its own extensive grounds, the New York building would leave very little to be desired. It must be owned, however, that it is injured by its neighbors and returns the injury with some vindictiveness, and also that it bears no traceable relation in its design either to the State of New York, which it represents, or to the Columbian Exposition, of which it is a conspicuous feature, except, indeed, that it has a festal and pompous air appropriate to the occasion.

As an impressive architectural object, impressive by magnitude and elaboration, the only rival among the group

of State buildings to that of New York is the yet larger and far costlier building of California. In this, however, the quest of local character and local color is evident. The earliest type of European building in California is the mission architecture founded upon the Spanish Renaissance of the sixteenth and seventeenth centuries, but modified by local resources and conditions. The choice of this architecture for the Californian building is so obvious that one would scarcely be inclined to give the architect any credit for it if one did not observe, by the most cursory circumspection, that other architects of State buildings had neglected indications quite as obvious. The architects of the new Stanford University, in California, have adopted the same hints with a success highly satisfactory, and in many respects brilliant. The success of the present essay is equally gratifying, and the building is not only so racy of California as to explain itself to every interested observer, but it is an admirable piece of picturesque architecture, and one of the noteworthy ornaments of the Fair. Its great dimensions (435x144) give an ampler scope than is elsewhere among the State buildings to be found for attaining picturesqueness and variety without losing mass, sobriety and repose. The ends, as will be seen, are almost literal reproductions of the Spanish Renaissance as practiced by the early missionaries, reproducing even its defects as in the lank and meaningless pilasters and the meaningless entablature of the engaged portico, and might be taken for actual church-fronts in old Mexico. These defects of the original would be defects in a modern building of a more permanent character and a more serious purpose, but it is commendable to retain them in a design which aims at retaining and emphasizing local characteristics. It happens that the modifications made by the missionaries in the architecture they tried to naturalize are such as to fit it especially for reproduction at the World's Fair. The adobe that they were forced to substitute for masonry has much the same characteristics and possibilities as the "staff," or tough plaster which is the envelope

of the buildings at Jackson Park. One of the characteristics of the sun-baked clay is the necessity for protecting it against tropical rains by overhanging roofs, and this necessity enforces an architecturally effective disposition in what would otherwise be a featureless expanse. The shadows of the eaves, alike of the clere-story and of the aisle walls of the California building give strong and emphatic belts that accentuate a division in itself carefully studied and effective, while the corrugation of the tiles, literally reproduced from those of the old missions, gives character to the roofs themselves, and an effective contrast to the smooth walls which is very gently heightened by the contrast in color of the gray plaster and the deep red tiles. The nature of the material is again confessed in the unusual depth of the reveals, giving again an effect of massiveness exhibited by strong contrasts of light and shadow, and suggesting the tropical conditions out of which the architecture grew. The outer wall of the flank of the Californian building is in itself a very agreeable object, not only by its extent and simplicity, but by the skill with which the architect has taken advantage of those qualities in fixing the relation of voids to solids, and in inclosing the arcades of the curtain walls between pavilions that are stark and unbroken masses of masonry. These things would make it evident that, even in what purports to be only a reproduction, there is more than reproduction, being a skillful and intelligent adaptation.

Still, if no more than reproduction or adaptation had been attempted, the California building would not be the striking mass that it is. It would have the look of its prototypes, of a kind of monastic barrack, and would be no more admirable than they. What makes it so admirable a piece of picturesque architecture is the central feature, for which no precedents are to be found in the architecture in which the designer chose to work as the most characteristically Californian. This central and dominating feature gives their greatest architectural value to the subordinate parts, from which also in turn it derives

much of its own impressiveness. While a quite original feature, it is distinctly in the color of the architecture which it crowns. Even in the low curvilinear gable of the porch there is nothing discordant, though the precedents for it are rather of Flemish than of Spanish origin. It goes perfectly both with the Spanish Renaissance of the pavilions that flank it and with the Spanish-Moorish of the arcades above and behind it and the spreading domical roof. The roof garden that fills out the angles of the square assists the expression, at once festal and tropical, of the architecture, and completes one of the most attractive and appropriate of all the buildings in Jackson Park.

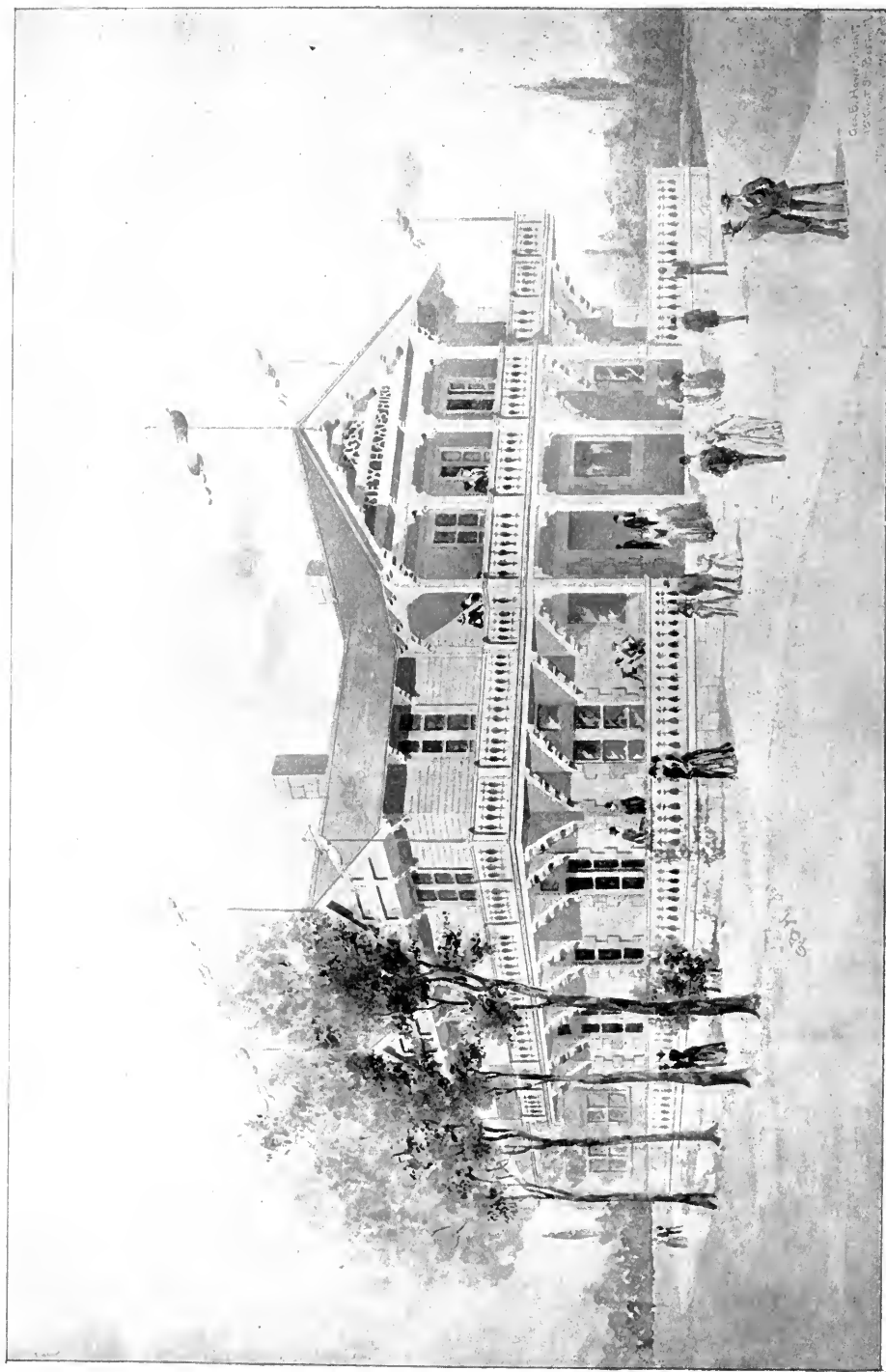
By far the most pretentious and costly, however, of all the State buildings is that of Illinois, and unfortunately it is the least successful of any. Indeed, it is so unsuccessful as to dispute with the building of the United States the bad eminence of being the most incongruous and intrusive of all the edifices by which a noble architectural scheme has been balked and marred. In point of intrusiveness it has clearly the better of this unworthy competition. For whereas one does not see the Government building unless he looks at it he cannot possibly help seeing the Illinois building, which not only forces itself upon his notice but is so placed as to interrupt and spoil what was meant to be and ought to be one of the most impressive vistas of the Fair, the view northward from the water-court up the canal. This vista should be closed by the long and low façade of the Art Building, with its low and spreading dome, and this building is entirely worthy of its situation. But the Illinois Building shoulders itself rudely into the way so as to cut off a great part of the Art Building and to obtrude itself upon the notice of every visitor. Even if it were itself very well worth looking at, this disposition would be a grievous fault, and, as a matter of fact, it is not worth looking at at all. It is of the American Capitoline type, and looks indeed like one of the State capitols that were modeled after the national capitol,



ILLINOIS STATE BUILDING.

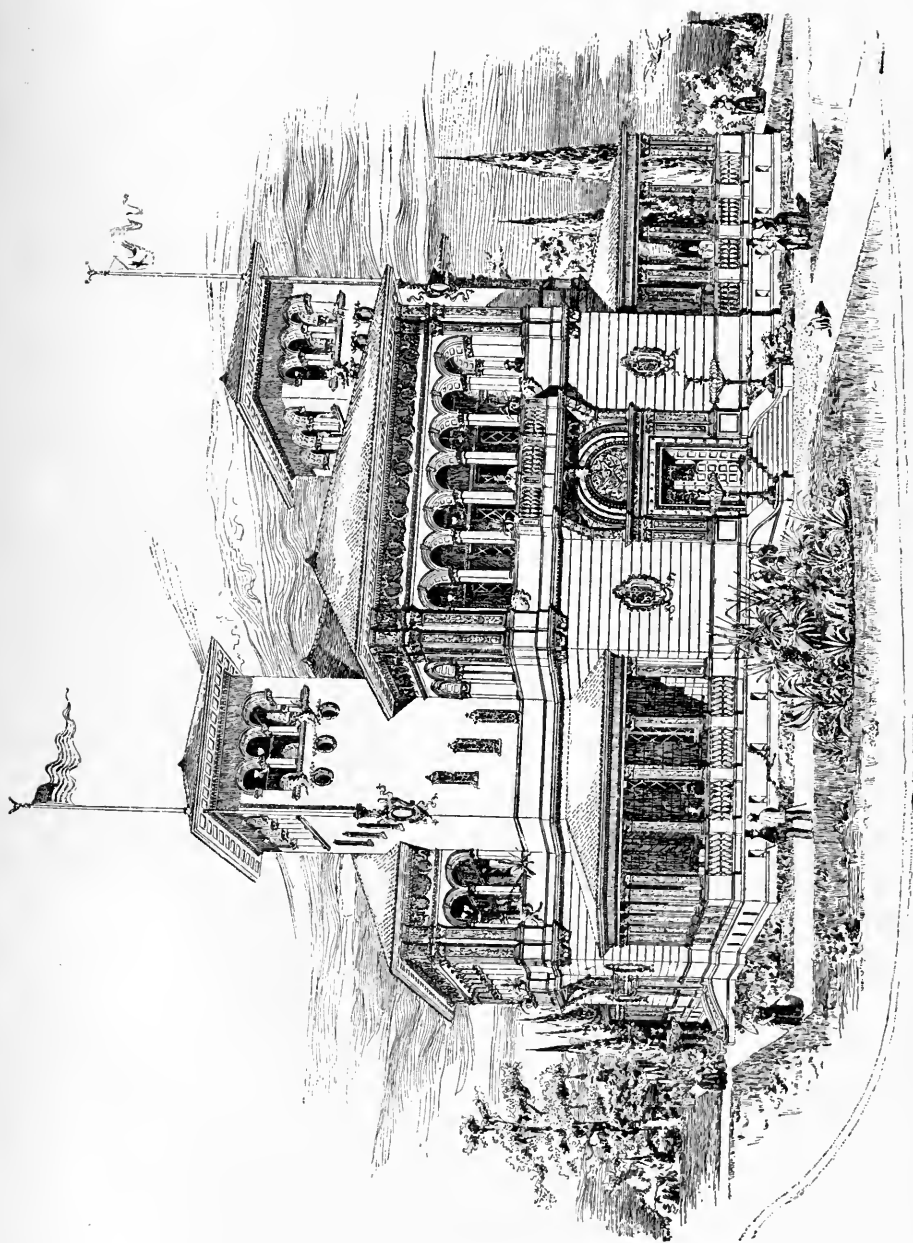
a State capitol born out of due time and still more out of due place. The sub-structure is a cruciform building, entirely commonplace in conception and entirely crude in detail, which confesses its festal purpose by being greatly overcrowded with unconsidered trifles of decoration. But it would not be so bad but for the dome at the intersection, which is a distressing object. It is not only the ugliest dome on the grounds, but one of the ugliest in the world; and it is interesting to remark that its ugliness proceeds directly from the purpose, which is not only an inartistic but an essentially vulgar purpose, to make it the highest erection on the grounds, instead of making it a fit and dignified culmination to the substructure. The purpose might have been attained, of course, without producing so painful a result. A square or polygonal base might have been carried well above

the main roofs, and have given the dome an adequate footing, which it now grievously lacks, and a subordinate stage or attic might have been introduced between the dome and the bell, as is done in all artistic domes in which altitude is a main object or condition of the design, as it may legitimately be. But a soaring dome is one thing and a spindling dome is another. Altitude is here attained by simply elongating and attenuating each of the parts. The base is much too low, but the dome is "pulled out" to increase its height, the bell above it is pulled out still harder, so that it ceases to be a bell and becomes an extinguisher, and the lantern is pulled out in turn, and so is the flag-staff that surmounts it, the cap of which is in fact the "highest thing on the ground, sir." The dome of the government building itself is respectable by comparison. Whether or not it be the



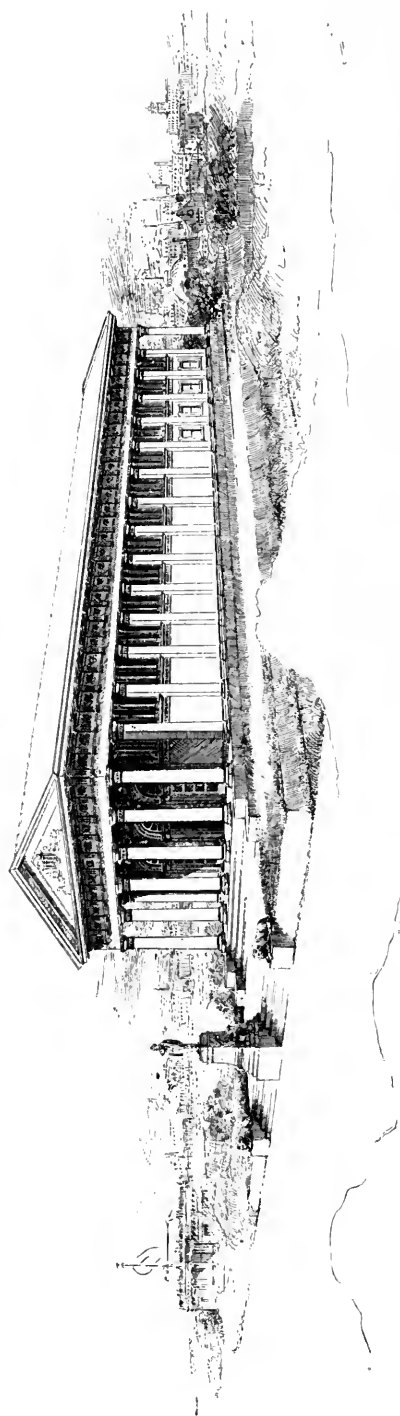
NEW HAMPSHIRE STATE BUILDING.

Geo. B. Howe, Architect.



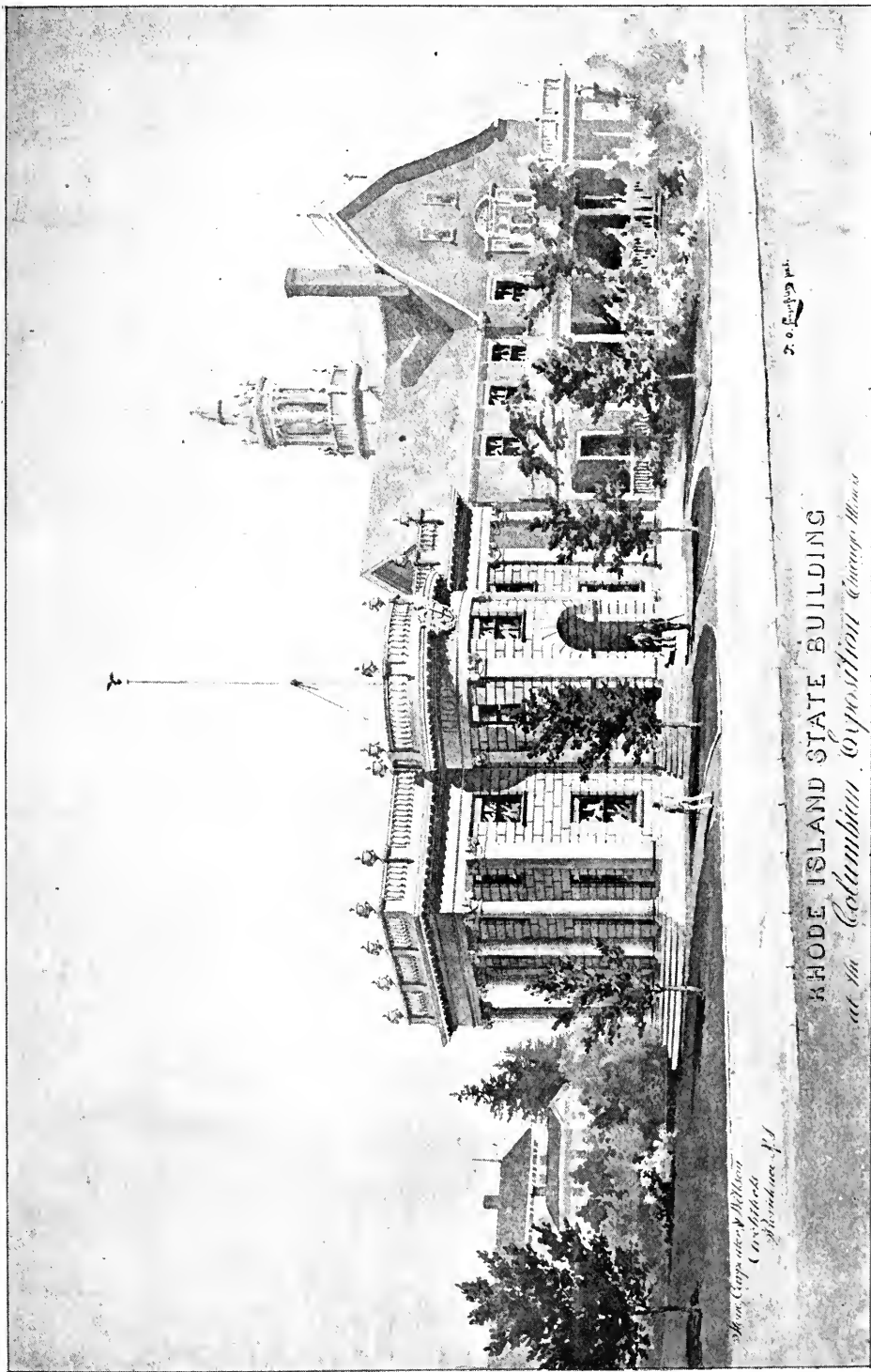
TEXAS STATE BUILDING.

James Riely Gordon, Architect.



G. L. Morman, Architect.

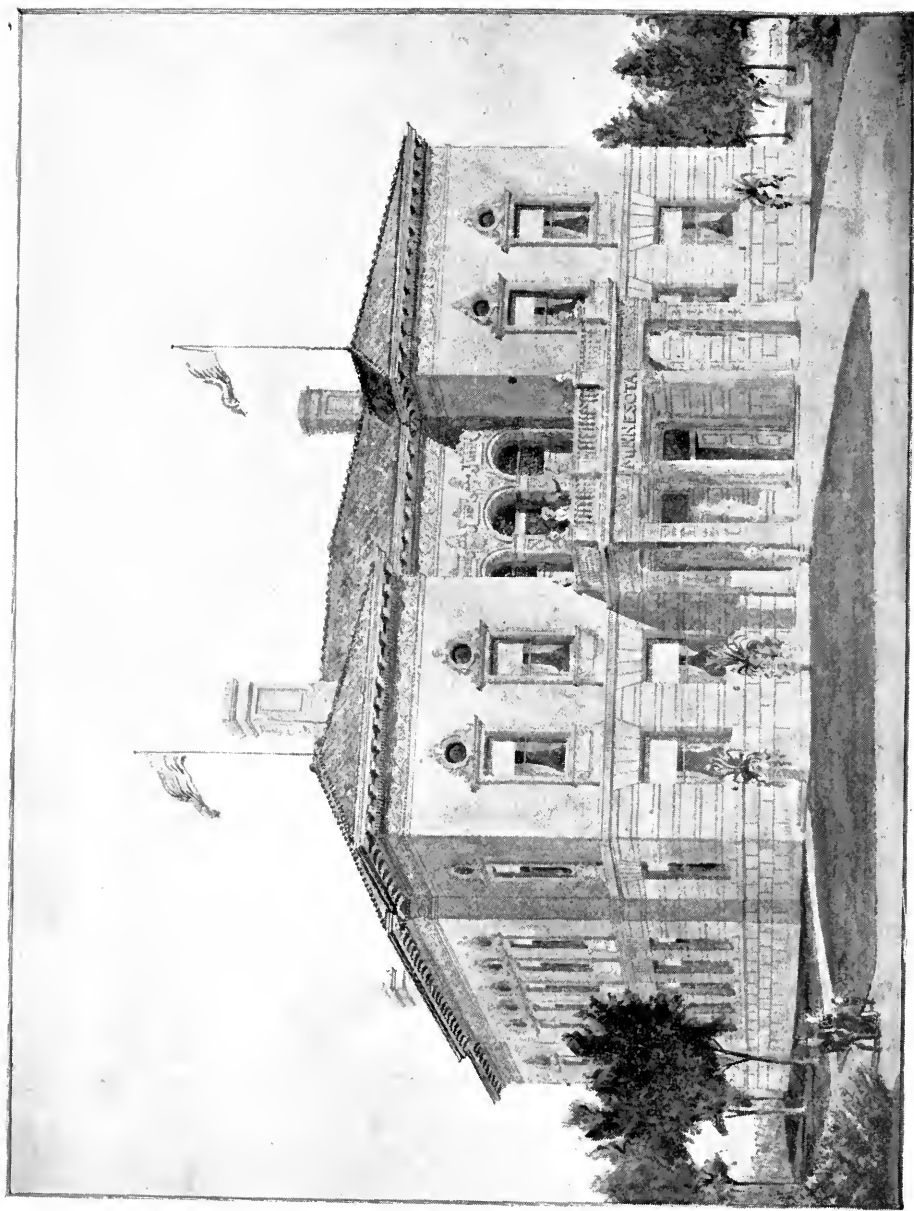
GEORGIA STATE BUILDING.



RHODE ISLAND STATE BUILDING
at the Columbian Exposition Chicago 1893

John C. Capron & P. M. Brown
Architects
Providence, R.I.

J. O. English del.



MINNESOTA STATE BUILDING.

Wm. Channing Whitney, Architect.

worst piece of architecture in Jackson Park, the building of Illinois is the most offensive, and it is a real pity that the architect had so much money to spend.

In the building of New Hampshire an attempt has been made at local color, though only by the recognition that New Hampshire is a mountain State, "the Switzerland of America," and that therefore Swiss architecture has a certain appropriateness to its representation. One would have been glad to see something more indigenous. The log cabin is not only appropriate to the representation of the State and to the requirements of occasional and festal architecture, but it is a construction very favorable to an architectural development, as nobody will deny who recalls the Swedish school house at the Centennial, now for many years an ornament of the Central Park, in New York. All the same the choice of the *châlet* was not inappropriate, and the result is very agreeable of a free and intelligent adaptation of the *châlet* to the purposes of the World's Fair. The plastered first story, with its angles and jambs quoined in New Hampshire granite of various tints, forms an excellent basement for the timber superstructure, with its brackets and balconies of unmistakably Helvetic origin, and the building is distinctly one of the successes of the collection.

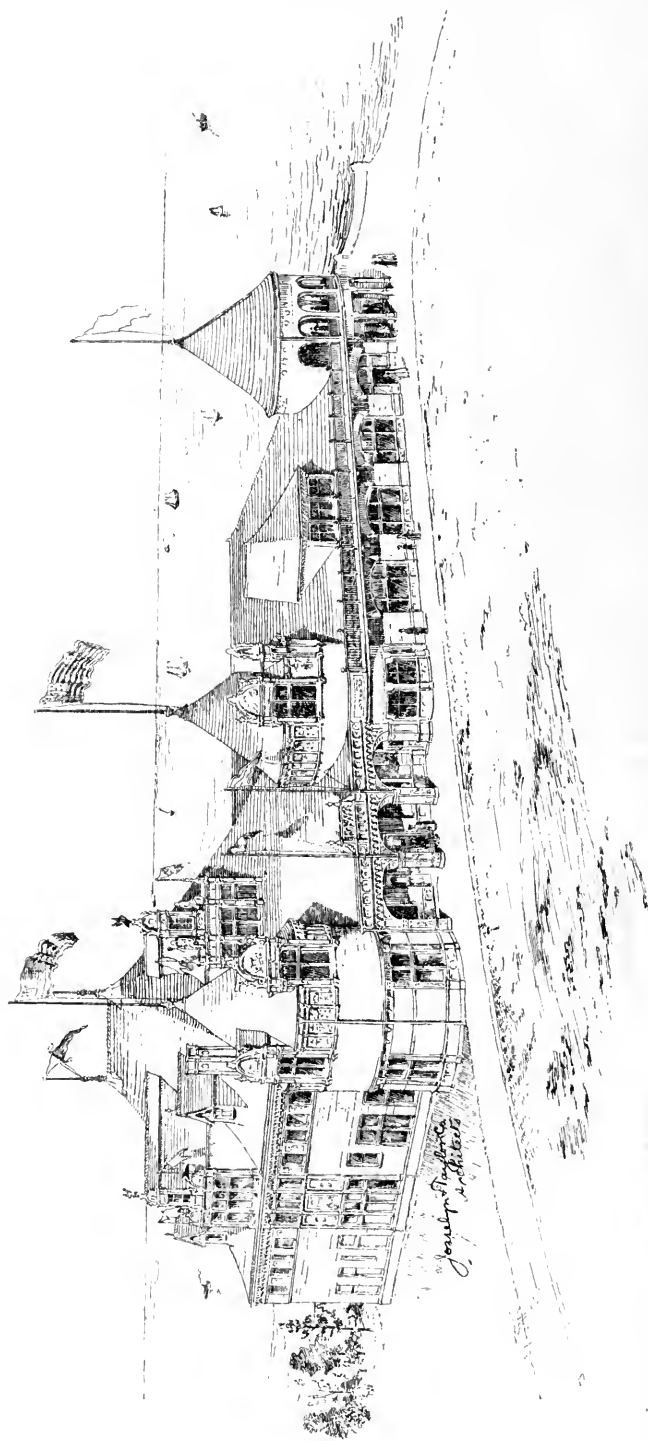
In the building of Texas the Spanish local color has again been sought, as is natural, and seems to have been not unsuccessfully attained, although the general composition of the building, with its double low-crowned belvederes, resembles an Italian villa as strongly as it does any Spanish or Spanish-American erection, though much of the profuse detail is distinctly Spanish. It is at all events distinctly festal architecture, and ingenious provision has been made for heightening this effect by ornamental and characteristic planting.

The building projected for Georgia was the most literal reproduction of a classic temple among the designs for State buildings, being a hexamphipro-

style temple, in a general way Roman Doric, with the order converted upon the flank into a range of square piers, the intercolumniations closed half-way up and furnished with windows above. This, however, has not been built. The most strictly classic building actually erected is that of Rhode Island, though this does not follow classic models in its composition—being rather a reproduction of a mansion of the Greek revival that followed the Colonial revival. It is amphiprostyle, but with a semi-circular projection on one side, decorated with four engaged pilasters of the Ionic order. These pilasters are reproduced, though in a straight line, on the porch of the opposite side, which is not shown in the illustration. While there is a certain awkwardness inevitably resulting from the excess of portico upon a building of modest dimensions and nearly square (39 by 34) the purity of the detail and the proportions of the porches, taken by themselves, give the work a stateliness and distinction, and it has an historical value also as the chronicle of a phase of American building that lasted for more than a generation.

The building of Minnesota does not pretend to any local or historical significance, but it is a decorous and impressive Renaissance mansion, well considered in general composition and carefully and tastefully detailed. The aim of the architect seems to have been to make a building that should not be offensively incongruous with any neighbors that it might have, and in that case he deserves praise for proposing to himself an end at once so sensible and so modest, as well as for the success with which the end has been attained.

The building of Nebraska is an example of Colonial architecture, of the public kind, and recalls more or less a good many public buildings of the period. The two principal stories are too nearly equal in value for the best effect, but the building is entirely respectable, and the rather rich tetrastyle portico relieves it of the monotony and bareness that it would otherwise have.



IOWA STATE BUILDING.

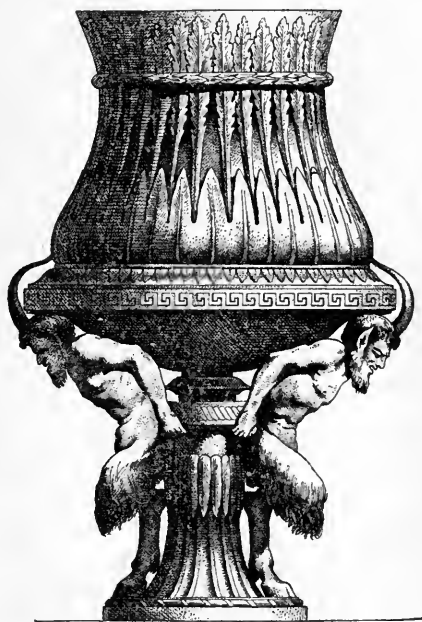
Josselyn & Taylor, Architects.

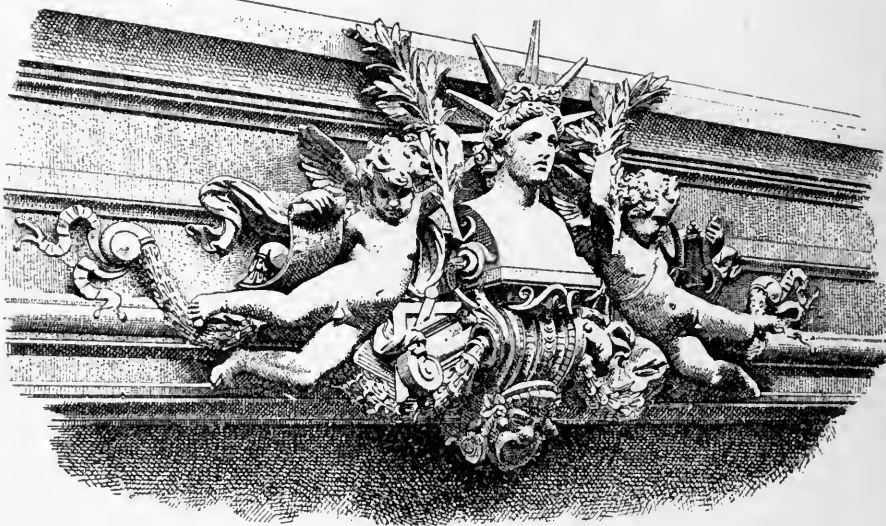
The architects of Iowa had a unique problem. Funds were not available for the costly building it was at first meant to erect for the State, and the State obtained the use of the pavilion already standing in Jackson Park, with permission to add to it. The low building at the right is the pavilion, to which the design had to be conformed, and the addition, in French château architecture, conforms to it fairly well and composes with it a sprightly and festal building.

Upon the whole, while a very much better general result might have been reached had the State architects taken

counsel together, or submitted themselves to a general supervision, as the architects of the Exposition building did, the individual buildings are highly creditable. They show a marked advance upon the similar building at the Centennial, and the advance corresponds fairly to the national advance in knowledge of the art of architecture and skill in its practice. It is shown in a most gratifying way by the absence of freaks and monstrosities. There is but one in the list that can fairly be described as vulgar or offensive; and surely this is a great deliverance.

Montgomery Schuyler.





WASTED OPPORTUNITIES.



THE ARCHITECTURAL RECORD intends to add to its series of critiques on current architectural practice, which treat of peculiarities, eccentricities or worse in the façades of buildings, a series which shall deal with the plans of office buildings, calling attention to defects which exist in them and showing the consequences thereof.

Whatever may have been the effect of the series called "Architectural Aberrations," and we believe it to have been decidedly beneficial, we trust that this series will have still more marked effect.

An office building is erected with the specific purpose of making money for its owners, with occasionally the further purpose of serving as an advertisement. It must, therefore, to be a successful one, at least yield as much interest on the gross cost as does any of its competitors. It, then, it can be shown that, in any particular, changes in the plans could have been made to render it still more profitable, an opportunity has been wasted.

We do not undertake to say that the blame for this waste lies on the shoulders of any one person, because it might be due to peculiar conditions imposed by the owner or his representatives, or to peculiarities incidental to the proposed use of some of the floors, or to a misapprehension of instructions, or to attaching undue importance to certain features emphasized by the client, any one of which, while the violation of fundamental principles, might at the same time be perfectly justifiable.

A good office building must combine the following elements:

- (a) Ease of access.
- (b) Good light.
- (c) Good service.
- (d) Pleasing environment and approaches.
- (e) The maximum of rentable area consistent with true economy.
- (f) Ease of rearrangement to suit tenants.
- (g) Minimum of cost consistent with true economy.

These are copied from an article on "Modern Office Buildings," published in THE ARCHITECTURAL RECORD for the quarter ending June 30, 1893, and for their definition and demonstration the reader is referred to that article because it presents them in form

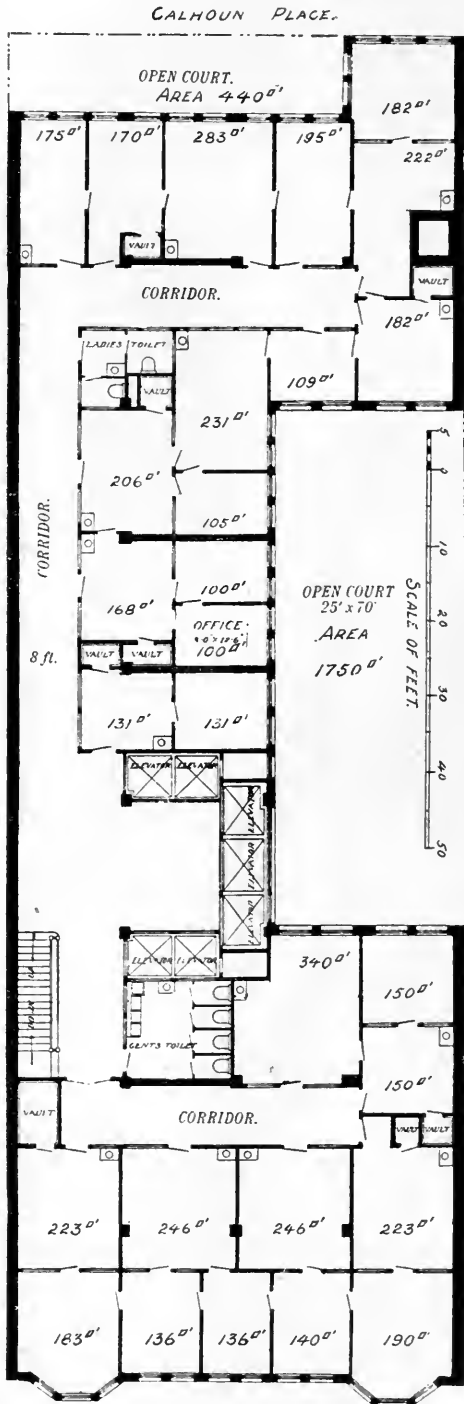
easily referred to. Where cases arise where we disagree with the author the reasons will follow, but it seems desirable to have some authority to fall back on in addition to that most potent of reasons with the owner, the one of dollars and cents.

While Chicago did not actually inaugurate the type of steel skeleton high office buildings it was more fully developed there than elsewhere, and it seems proper, therefore, to begin the series by a criticism of a Chicago building. We shall, therefore, start with the Chicago Title and Trust Co.'s building, located on the southerly side of Washington street, just east of Clark street. To quote from the Company's renting plans: "The aim has been to make all the offices desirable, convenient and the best in the city. The Company will make this the most complete office building in Chicago and will furnish it with every modern convenience."

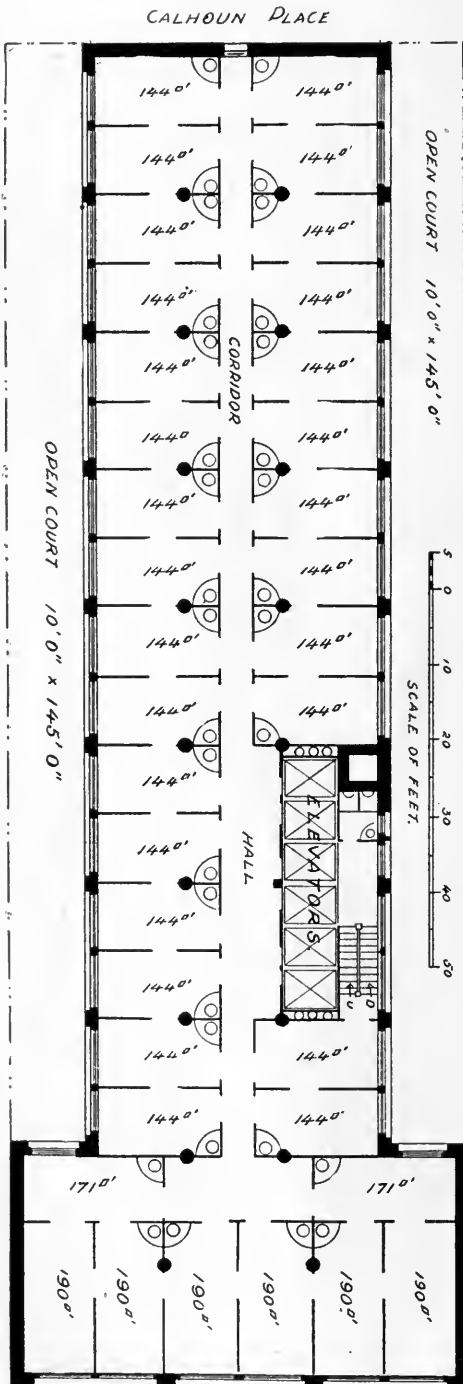
The building is located on a lot 60 feet front and 180 odd feet in depth, running from Washington street south to Calhoun place. It is erected of blue Bedford stone to the fifth story and above that of gray Roman brick. The interior is arranged so that any of the partitions can be changed to suit tenants, according to the prospectus, with high marble wainscoting and mosaic floors in the halls. On the ground floor the rear half is reserved for the Company's own offices, the front portion being dedicated to banking-rooms. The second and third floors are reserved for banks or other use requiring large space.

The statement is made that absolutely no expense "has been spared to make the construction in the highest degree substantial and safe." On the upper floors, down to the ground floor in fact, there is evidence of this in the transverse bracing between four pairs of columns which carry through the stories unbroken. But this bracing is omitted for all but one on the ground floor. From the above it is evident that the endeavor has been made to secure satisfactory results. Now let us see with what success.

We shall consider the various points



Ninth Floor,
98-102 Washington St.
The Plan as it is.



98-102 WASHINGTON ST

The Plan as it ought to be.

in the plan in the order in which we have stated them. In order to more fully illustrate them we present two plans, one of the building as it is, and the other as we think it should be, and also a schedule showing some of the marked points of difference, with the money value thereof.

(a) *Ease of access.*—From the schedule it will be noted that not only is the distance from the entrance to the centre of the elevator space greater than it should be, but also the distance from the elevators to the extreme office, so that a visitor who is desirous of seeing the tenants occupying the office in the rear has to travel in the executed plan a distance of 212 feet through the halls, instead of a distance of 170 feet, which he would have had to travel had the plan been as it should be. In addition to this a person entering the space devoted to elevators in the executed building has to risk the dislocation of his neck in order to see which elevator will most quickly serve him, while in the proposed plan all of the elevators are visible at a glance.

On the ground floor the entrance vestibule would be made 20 feet wide and the hallway to the elevators 12 feet wide, instead of the entrance vestibule being made 12 feet wide and the elevator hall much larger.

(b) *Good light.*—It has been demonstrated that courts should have their long axis north and south, and in the building as it is, one of the courts have been so placed; but it is so located that should the owners of the adjoining property ever build, the court will be closed in and no circulation of air can consequently take place through it. Calhoun place, which is very narrow, has had its efficiency as a furnisher of light increased by throwing 10 feet of a part of the lot into it, but since this widening is in the wrong direction, its effect is much less than it should be.

We have then in the plan as it is a total area of 2,190 square feet devoted to courts. In the proposed plan the courts are made with their long axis north and south, 10 feet wide, and opening out directly on to Calhoun place, devoting 2,900 square feet to

light and air; the courts being open to their very bottom will always afford good ventilation, and during the winter time will let in a maximum of light, and their position is such as to make it an inducement to the property-owners on both sides to follow similar lines, while their width is such that even if the adjoining property-owners build on the line the light will be ample.

In addition to this, however, is the question of light in the offices. In the schedule the percentage of light offices is given as 64 for the building as it is; this means that of the 5,053 square feet of the rentable area 1,813 square feet is comprised in rear offices which do not get light from the outer air direct, the cases in which light is taken from the side walls being accidental and liable to interruption at any time.

This being the case, it is hard to say precisely the value of these offices except for certain particular purposes.

In the plan as proposed every office opens directly to the outer air and the hallway has its opening to the outer air as well, while all but two of the elevators have their back to the light, affording ample light.

(c) *Good service.*—The only question here involved is the one of whether six elevators are sufficient. We believe that they are, and if they are not it is a very simple matter to put in a seventh one, but experience has shown that if they are properly arranged there is no difficulty. The position of the stairs is such as to make them as unobtrusive as possible and yet have them available in case of need. The fact that they are entered through an office unit, and that the emergency toilet is also entered through it, is one that would decrease the rentable value of that office necessarily. The position of this toilet, however, is such as to insure its being used only in case of emergency, which is what it was planned for. The other toilets would be grouped on one of the other floors, or immediately under the roof, in no way adding to the expense of erecting the building and giving a more liberal accommodation than is now provided.

So far as the question of lost time is

concerned, there is certain to be more among the tenants of thirteen suites waiting for some one of the four toilets to become vacant than for them to take a trip in the elevator, which would mean six minutes for the round trip from the first story to the roof and down again, and since the average would be eight stories it would mean three minutes for the average time. Should the owner or the agent deem this excessive some space could be devoted on the eighth floor, thus reducing the total average trip to one and one-half minutes, which is inappreciable.

The further convenience of having the toilets grouped together, and the knowledge of the fact that no time need ever be lost in waiting, would compensate for the trip, while it would be possible to have a man always in charge to prevent any nuisance and see that everything was in proper working order.

We desire to call attention to the fact that the plan as it is shows the basin slabs only 15x30 inches, which is altogether too small. The arrangement of the toilets is open to serious objection on sanitary grounds as well as on account of the space which is wasted by having them in this position, since none of them open to the outer air, and therefore lack direct light, and the shafts which are near them are so small as to be insignificant as factors for ventilation, and the consequence is that there must be times when they become offensive. In any city where sanitary matters are strictly supervised this arrangement would not be permitted.

(d) *Pleasing environment and approaches.*—This is a subject concerning which we have no interest, it being entirely within the control of the owner.

(e) *The maximum of rentable area consistent with true economy.*—The ground floor contains the offices of the Company and a banking room in the plan as executed. In the plan proposed the offices of the company would be very slightly less, running from the line of columns at the left end of the elevator hall through to the rear, but they would be perfectly lighted throughout

their entire length and would not be obstructed by the chimney. In the front there is room for two banking rooms in place of the one, and each one should rent for as much as does the present one, because the space is such as to be more advantageously used, and the light is perfect. We therefore should have on the first floor a better return than is gained at present.

On the office floors it is immediately evident that the proposed plan contains far more rentable space than the executed one, in spite of the fact that there is more space devoted to courts in it, and, in addition to this gain in area, there is the further gain in light.

The arrangement of the offices in suites in the executed plan is such as to render one of the offices dark and fit only for use as a waiting-room, unless artificial light be furnished. In any event, the value of the dark room cannot exceed one-half of the value of a light room and, in that case, we would have the effective area in the executed plan less than in the schedule, since 1,813 square feet are in dark rooms, we should have the effective area for rental of 4,146 square feet to compare with 5,514.

The corridors are made 4 feet wide in the clear, except in front of the elevators, where there is likely to be congestion, there they are made 8 feet wide in the proposed plan. In the plan, as executed, the halls are 8 feet wide, except in front of the elevators, and there there is an effective width of 13 feet; but the total area in front of the elevators is only 221 square feet, against 288 for the plan as proposed, and the position of the elevators is such as to cause confusion and interference at times, especially when the attempt is made to use the two corner elevators simultaneously. The breadth of corridor space is simple waste, since it is unnecessary.

A further disadvantage lies in the arrangement of the executed plan and in the disposition of the four bracing partitions, which make it extremely difficult to get any large space for the use of more than two tenants per floor, while in the plan as proposed, the only partitions which are fixtures are those on each

side of the elevator well, the extreme southerly wall affording the other means of bracing, and the arrangement, therefore, being such that anything that is desired can be done with the floor space. Even the stairways are so placed that they can be shut off and communication be kept up past any particular floor without trenching on its space.

If vaults are considered a necessity, it would be better economy for the owner of the building to purchase safes for each pair of offices than to put in the fire-proof vaults with their loss of space as shown.

(f) *Ease of rearrangement to suit tenants.*—This point has already been pretty well covered in the discussion of the other points. A study of the plan, however, will make it evident that if the arrangement is desirable as it is, the proposed arrangement must be more so since the private offices are susceptible of a better arrangement of the furniture and communicate directly with the corridor, so that in case of need a person can leave the office without passing through the general office. At the same time the outside or general office is perfectly lit, and is of an economical size. The arrangement of the floors in units is such as to permit of expansion according to individual needs to any extent and to give almost any arrangement of space that is wanted. Every office being the duplicate of every other office, there is no difficulty in separating any set of offices that may be desired to suit a tenant's requirements, while if the offices are to be changed, the removal of the partition is easily accomplished and the lighting and heating would be unaffected; plumbing fixtures being removed by simply unscrewing the couplings where they pass from the column inclosure into the room.

(g) *Minimum of cost consistent with true economy.*—In the plan as executed no exception can be taken to the marble wainscoting and flooring, to the bracing, or to any other of the elements of cost considered in themselves. When they are considered, however, in their amount, we find much to deplore.

It must always follow that a bad

plan necessitates bad construction, and that is particularly true in this case. The peculiarities of the Chicago soil are such as to require a very wide spread to the foundations, we should therefore desire to minimize the loads as far as practicable and should have our columns arranged in pairs so as to readily treat them. In the plan as proposed it will be at once seen that it is entirely practicable to arrange all of the columns in pairs except in two cases, and obtain symmetrical footings under them in all cases, without encroaching in the neighboring property. In the plan, as it is executed, this cannot be done. The executed arrangement of the columns leads to an unnecessary depth of floor beams, and as a consequence, the minimum beam depth to use in the building as executed is 10 inches, while in the building as proposed, it would be entirely practicable to use 8 inch beams, a saving in the height of the building of 2

feet 8 inches, and a considerable saving in weight.

In the matter of the windows, in spite of the fact that the plan proposed has more light than the plan as executed, there are six less exterior windows per floor, which means a considerable saving. The superior arrangement of the floors renders the interior sash wholly unnecessary since the hall would be properly lit from the sash and transoms of the entrance doors of the offices, and we therefore would save 38 interior sash and frames per floor. The length of walls in the executed plan, in spite of the fact that they inclose less rentable area, is considerably more than it need be.

The total area of the building as executed is also greater than that proposed, in spite of the fact that there is less rentable space in it, and, as a consequence, the cube of the building is increased 146,000 feet. The values of these various items, based on usual prices, are given herewith.

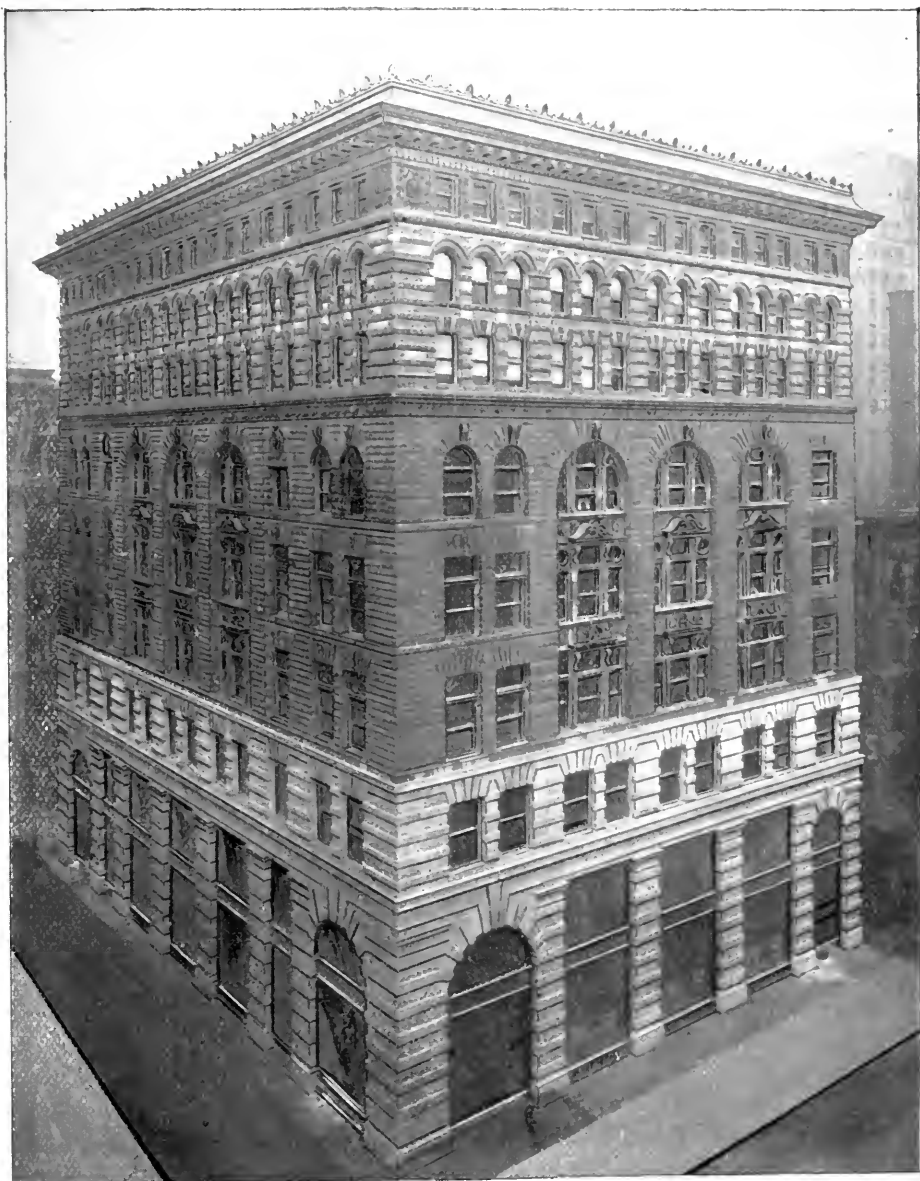
SCHEDULE OF DIFFERENCES.

DIMENSION.	As it is.	As it should be	Credit.	Debit.
Number of columns.....	46	46		
Span of girders.....	20 ft.	18 ft.		
Span of beams.....	16 "	13 "		
Exterior windows, per floor.....	47	41		\$4,500
Interior sash, per floor.....	38	0		14,250
Wash basins, per floor.....	16	36	\$15,000	
Urinals, per floor.....	3	4	1,125	
Water closets, per floor.....	6	4		2,400
Elevators.....	7	6		5,000
Length of walls.....	529 ft.	484 ft.		20,250
Angles.....	10	8		4,500
Height of building.....	198 ft.	195 ft. 4 in.		6,420
Court area.....	2,190 "	2,900 ft.		
Rentable area office floors.....	5,053 "	5,514 "		103,725
Hall area.....	1,912 "	886 "		
Wall area, average.....	662 "	603 "		
Elevator and miscellaneous area.....	1,103 "	1,017 "		
Building area.....	8,730 "	8,020 "		
Total service area.....	3,677 "	2,506 "		
Lot area.....	10,920 "	10,920 "		
Cube of building above ground floors.....	1,552,000 "	1,408,000 "		43,200
Distance, entrance to centre of elevator space.....	85 "	67 "		
Distance, centre of elevator space to furthest office.....	127 "	103 "		
Percentage of light offices.....	64	100		
			\$16,125	\$204,245
				16,125
			Net Debit	\$188,120

Add to these unnecessary expenditures of money the amount which represents the value of rentable area in the proposed plan in excess of that in the executed plan, based on a return of \$1.50 per square foot, capitalized at 10 per cent, and the total will represent the cost of planning the building in this way.

If, in addition to these items, we assume that the dark offices have a value of only one-half that of the front offices, we have a further loss of \$133,275. It is sufficiently great to demonstrate the desirability of a more thorough investigation of the possibilities of a lot before proceeding with the erection of the building.





Chicago, Ill.

THE NEW MARSHALL FIELD BUILDING.

D. H. Burnham, Architect.



Chicago, Ill.

HAHNEMANN MEDICAL COLLEGE.

W. W. Boyington, Architect.



THE MUTUAL RESERVE FUND BUILDING.

Broadway and Duane street, New York City.

W. H. Hume, Architect.



Nassau street, New York City.

FULTON BUILDING.

De Lemos & Cordes, Architects.



THE MANHATTAN LIFE INSURANCE CO.'S BUILDING.
(The tallest building in New York City.)

Broadway, New York City.

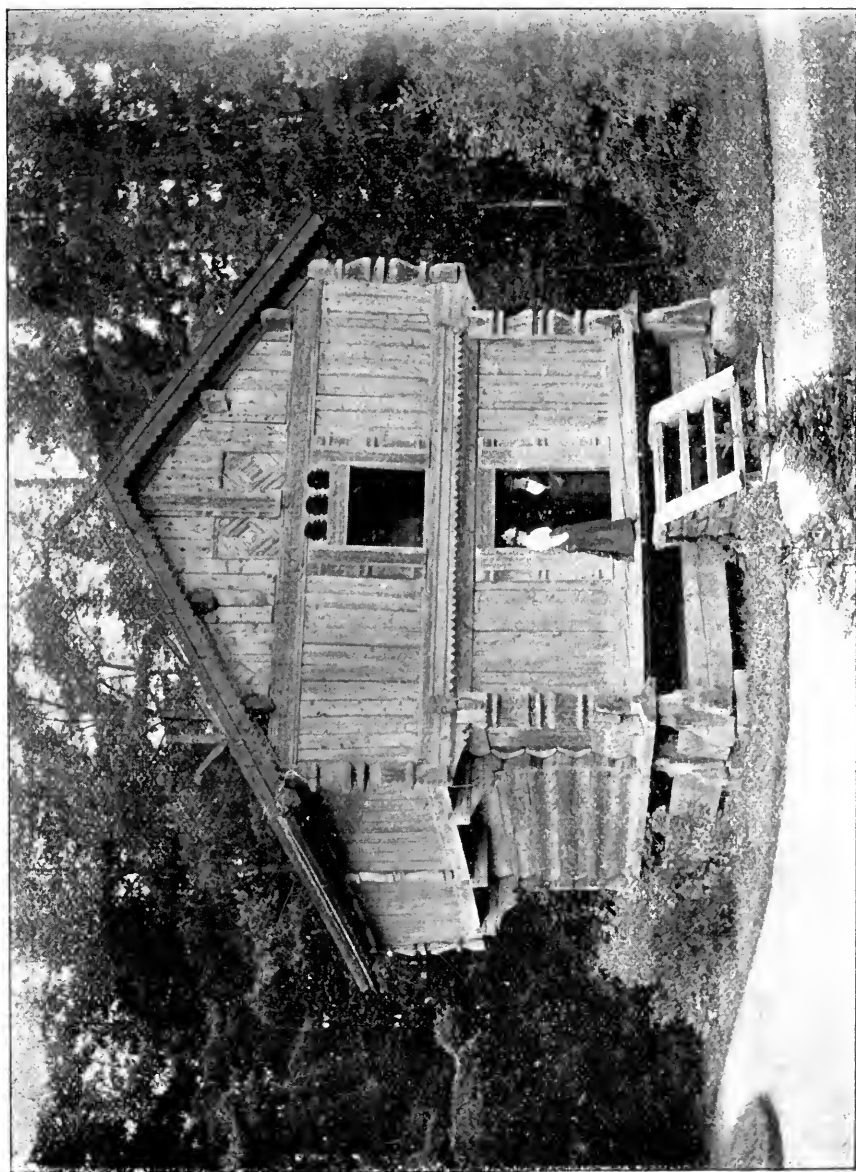
Kimball & Thompson, Architects.



THE KEUFFEL & ESSER CO.'S BUILDING.

Fulton street, New York City.

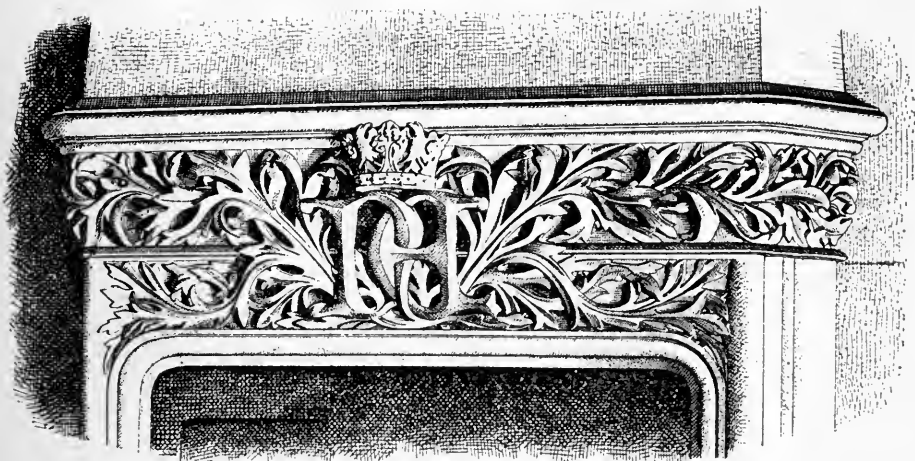
De Lemos & Cordes, Architects.



NORWEGIAN COTTAGE.



TIMBER CHURCH, NORWAY.



FRENCH CATHEDRALS.

PART III.

CHRONOLOGY.

I.



THE readers of the New York daily press on the morning of January 2d, 1892, would have found, had they looked closely enough, a brief notice to the effect that on the day before, Bishop

which, for all time, would be honored as a day of memory for the commencement of the work.

We of this present year of 1893 know very well that no work whatever was done to the Cathedral of S. John the Divine in the City of New York on January 1st, 1892. We know that the ceremony briefly chronicled in our daily papers was simply a formal consecration of the ground without thought of the day when the work of building would actually be begun. We know, furthermore, that while the corner stone, the official memorial stone, of the cathedral was really laid on the Day of S. John the Evangelist, 1892, work on the foundations had been under way for some time before, necessary, in fact, to bring the corner stone above the level of the ground. We know these things because they have but just transpired under our immediate vision and come within the bounds of common, everyday knowledge. But we can readily see how, without other data, they

Potter had held a "service of occupation" on the site of the proposed Cathedral of S. John the Divine. It is not inconceivable to imagine that, were there no record of the beginning of that cathedral save this, the historian of the twenty-fifth century might readily take it to indicate the day on which the work of construction had been begun. Then again, a year later we all read in our morning papers the accounts of the solemn, though not elaborate ceremonies with which the corner stone of the same church was laid on the 27th day of December, 1892, and again the future historian might unhesitatingly assume, were no other facts at hand, that the first stone was really laid on the self-same day,

might confuse an historian living in the year 2493, and so, while realizing the confusion possible with events and dates now easily recorded, understand, in a measure, how difficult it is for us, in this year of grace, to correctly determine events and epochs belonging to a time six hundred years earlier, when there were no newspapers, no printing presses, no myriad ways for recording time and disseminating knowledge, no accurate markers of time, no definiteness, no care, scarce any records. The year 2493 seems to us an immense distance in the future, yet it is no further from our day than the year 1293, a date at which many of the French cathedrals had been completed and with which every archæologist is supposed to be entirely familiar.

No phase of the history of French cathedrals is so complicated as their chronology. Primarily this is due to the insufficiency and inaccuracy of the records. There was no honest historian at hand to record events and progress for the benefit of students living six or seven hundred years later. Even these dates, plainly written in documents of unquestioned authenticity, are now closely scrutinized by careful scholars. It is too much to say that the mere writing down of a date is sufficient to throw doubts upon its accuracy, but were modern archæologists dependent only upon written records for their chronological data, there would be no such thing as a chronology of French cathedrals or of any other class of mediæval buildings.

The records are inaccurate and incomplete because no one was interested in keeping them, and their future interest and value quite undreamed of. Were a Pope present at the consecration of a cathedral, or at the laying of a corner stone, as was not unfrequently the case—for in the twelfth and thirteenth centuries the Popes traveled oftener and further than they have done in the nineteenth—the time is apt to be properly set down, not because it was an architectural event, or was supposed to have the smallest architectural significance, but solely because of the

ecclesiastical importance attached to the presence of the Supreme Pontiff. There is no more generally recognized fact in the history of all the cathedrals of France than that the first stone of the Cathedral of Notre Dame at Paris was laid by Pope Alexander III. in the year 1163. The Pope was in France in that year, and, moreover, was in the city of Paris between March 24th and April 25th, so there is every reason to believe that he did indeed perform the ceremony attributed to him. Yet no contemporary historian makes mention of the fact, a most singular omission even in that distant day of loose recording, and the statement rests upon the word of a single chronographer living in the fourteenth century. And when the memory of the beginnings of New York's cathedral is recalled, one may well ask if, supposing the Pope had been present, it was actually the first stone he laid, or did he merely put in position, as did the Bishop of New York, an ornamental memorial stone.

Take the question of the consecration of a cathedral, an event more likely to be recorded than any other in the church's history. This is very far from meaning, as in modern times, the completion of the edifice. The Cathedral of Bourges was consecrated in 1324, though its west front and many chapels were added later. When the Cathedral of Auch was consecrated, in 1548, it was scarcely half finished. Consecration may mean the consecration of an altar, as the choir altars of Noyon in 1153, or of the high altar, as of the Cathedral of Paris in 1182, or the consecration of a choir, as of S. Denis in 1144, or the consecration of the whole edifice when the body was complete though much external and internal work was to be done, as was the case with the Cathedral of Chartres, consecrated in 1260. Often there is no connection between the consecration and the condition of the cathedral. The Cathedral of Albi, begun about 1280, was consecrated in 1480 and finally finished in 1512. The Cathedral of Troyes, begun in 1214, was only consecrated in 1429. The Cathedral of Senlis, finished in 1183, save towers and transepts not included in the original design, is a rare instance

of delay in consecration, which only happened in 1191. No record whatever is preserved of the consecration of the Cathedral of Rouen, and the Cathedral of Paris was consecrated as a whole only in the present century. The French cathedrals have never been finished, nor has their chronology an end. Dating, most of them, from the twelfth and thirteenth centuries, they have borne the brunt of time and man alike. And man has not been tender to them. Not every century has left its indelible mark, but each has impressed itself in some way, generally—at least after the sixteenth century—to the harm and detriment of the original fabric. Thus the chronology of their existence continues to this very day, and will continue long after this century has been dead—in a word, so long as they retain one stone upon another.

Yet it is a mistake to suppose that a cathedral is only the product of centuries of work. The Golden Age of cathedral building, as we have seen, was during the reign of Philip Augustus, when the French cathedrals *par excellence*, those of the Royal Domain, were not only conceived and begun, but many of them were almost completed. The most potent factor in the production of these great churches was not time but thought. They were the expression of a spontaneous outburst of religious enthusiasm. And this developing in an era in which architecture, of all the arts, was closest to the people, an enormous mass of thoughtful, living, real work was produced in an incredibly short space of time. It is true enough the building of many a cathedral was spread over centuries; that of the Cathedral of Tours, for example, was prolonged through five, from 1175 to the sixteenth century. The people thought it never would be done, and "*C'est long comme l'œuvre de S. Maurice*" passed into a popular proverb. But long continued work was not always as homogeneous as at Tours, which is somewhat remarkable in this respect. The thirteenth, fourteenth, fifteenth and sixteenth centuries had each their own form of Gothic, and the combination of all these styles—for styles they truly were—was not always

as happy as in the Cathedral of Albi, where an exquisite porch of the fifteenth century is joined to a church of the end of the thirteenth, and of which it is the richest and most beautiful decoration.

When the building of a cathedral extends later than the sixteenth century the result is apt to be a most unfortunate joining—there can be no blending in styles so different—of the Gothic and the Renaissance. The cathedral of S. Claude is a case in point. In 1726 the monks of that monastery determined to complete their principal church of S. Pierre, begun in the fourteenth century and left unfinished since the fifteenth. This they did by prefixing a debased Renaissance front to a Gothic body, and finished their work at the very time their abbey was created a bishopric (1742). More fortunate, perhaps, are those cathedrals which, like that of Limoges, have only been finished at the present day.

If a cathedral was never finished until its towers were all complete, its windows lined with rich painted glass, its doorways and porches covered with innumerable carved figures, its interior provided with every essential accessory of worship, with altars, choir screens, jubés and stalls, then few indeed, of the long roll of French cathedrals, are justly entitled to be called entirely done. Cathedrals of the twelfth century were often without transepts, which, as at Noyon, were added later. Interior furniture, essential as it was to the proper performance of religious services, was naturally added last, since temporary work could be replaced with more elaborate monuments at any time. Thus, through the centuries new memorials were constantly adding to the beauty and interest of the cathedral. Chapels were opened into the nave, monuments to bishops, princes and wealthy benefactors gave fresh significance to the interiors, and became, to us at least, an integral part of their fabric. And this is the single advantage derived from continuing the building of the cathedral over a long extent of time—the variety of memorials which it permits. As for the actual structures, a study of their chronology will show that, with scarce

an exception, those built in the shortest time are not only the most successful, but the greatest.

II.

Ecclesiastical dates do not always mean to the archæologist as much as they may mean to the ecclesiologist. They contain elements of uncertainty that need external confirmation to render them acceptable for architectural purposes. Nor is this their only fault; they are not only uncertain but incomplete. The early chroniclers were more concerned with the doings of the bishops and princes than with the recording of architectural progress made under their own eyes, and whose significance, notwithstanding the marvelous rapidity of development, they could scarcely comprehend, and in which they could imagine no one's taking an interest. It was much more important, in their eyes, to chronicle the comings and goings of the bishops, to relate how one succeeded the other, and, above all, to preserve tales—often of the most marvelous and impossible character, and the more so the better—of their doings. Thus the ecclesiastical history of any French bishopric may contain a vast number of facts, none of which throws the smallest light upon the building of its cathedral, which, without exception, was the most important work undertaken within the bishopric. Some side light is obtained from the records of donations, either by gift or by will, which crowd the early records and, being often for specific purposes, show that some sort of work was being done to the edifice at that particular time. Some further help is obtained from the chronicling of the visits of popes, kings and princes, or the meeting of a council, or the record of some other event which took a huge crowd of exalted folk to church. At the most, all this falls far short of what a modern newspaper reporter would find to say about the building of a church in any American city, were such things of the same relative importance as the great events which now crowd the columns of the daily press.

Of more vexation to the modern student is the inaccuracy of the written records. One of the most interesting buildings in the city of Arles is the small chapel of the Holy Cross of the abbey of Montmajour, which stands in the midst of an ancient cemetery, long disused, even as early as the thirteenth century. The chapel was built and consecrated in the year 1019 by the Archbishop of Arles, who took this occasion to renew the charter of the abbey, the date and fact being recorded in one of the most important documents preserved in the monastic archives. In the thirteenth century the legend arose, how or why is not known, that in very early times a battle had been fought in that neighborhood between the Christians and the Saracens in a place called Aleschamps. And where so convenient a site as the monastery cemetery, nor what more likely than that it be filled with the bodies of the Franks killed in battle? From this it followed, as a perfectly natural conclusion, that the chapel must have been erected by Charlemagne himself as a memorial to them. And so, without a thought of looking to their own archives for light, the good fathers placed an inscription to this effect in the interior of their chapel, that its origin might not be forgotten, and that future archæologists be not led astray.

More remarkable is an instance supplied by the monks of the church of S. Gilles of Languedoc. This edifice had been begun in the early part of the twelfth century, and to-day one may read the date 1116 inscribed on a stone in the adjoining cloister. Never carried to completion, work was resumed on it in the sixteenth century, and in a petition asking the sanction of the Pope for its continuation, the church was described as a monument begun by Charlemagne. And this monstrous distortion of the truth, which could have been so easily corrected, was actually incorporated in a papal bull issued in this connection.

Dates of all kinds prior to the middle of the twelfth century are extremely uncertain, and the most indefatigable archæological chronologist is certain to have trouble with them. After this

time many dates are unquestioned and readily ascertained, and errors, written or otherwise, as readily corrected. Fortunately modern archæology does not depend wholly upon written records. The analysis of buildings and parts of buildings, the study of ornament and of constructional features, enables the modern student to determine the relative age of buildings within one group; that is to say, in structures of a limited region or members of the same school, and in which progress and change have been similar and in a continuous line. But this does not permit the ascertainment of actual dates, nor does it enable one to say more than that such a building is older than another, or that it belongs, perhaps, to the first, second, third or fourth quarter of the twelfth century. But this comparative study has thrown much fresh and valuable light upon the chronology of mediæval buildings. It has lightened the work of the student, but not wholly relieved him of his burdens.

It would be an easy task, were it needful to do so, to divide the time covered by the building of the French cathedrals into periods, since their chronology is marked by several well defined epochs. In the most literal sense the time filled with their erection is not less than the whole period from the founding of Christianity, or more properly its introduction into France, to the present time. Ecclesiastical historians date the earliest cathedrals from the first preaching of the Gospels, and, in truth, the early missionaries built oratories or utilized caves or heathen shrines for Christian purposes, and thus, if they were bishops, founding veritable cathedrals. But it is misleading to designate all these early buildings, every one of which had passed away before their history began to be written, as cathedrals in the modern use of the word. Properly they were such, for wherever the bishop's chair was there was a cathedral, but in the early centuries, and in Britain as late as the end of the tenth century, the bishop moved his chair and his cathedral as often as he chose or as the exigencies of the times demanded.

But the ecclesiastical rank of these buildings, as well as their architectural importance, is of no moment to the student of present cathedrals. It is not uninteresting to know that many of the greatest cathedrals began, like Chartres, and Paris, and Marseilles, and many others, on the sites once filled with pagan shrines, but otherwise these almost mythical buildings have no place in our present studies. They may well be consigned to the *LEGENDARY PERIOD* of cathedral building without further thought or comment.

Their disappearance has not been wholly a matter of structural decay. Prior to the end of the first quarter of the tenth century Gaul was in a most unsettled condition. Tribes of Northmen poured down upon it in a steady succession, devastating towns, burning cathedrals, murdering bishops and disturbing the ecclesiastical and political state of the country. Internal dissensions were likewise numerous and no building of any sort could be depended on for a long life. Scarcely a bishopric in France but suffered at one time or another from the inroads of the barbarians, and many of them many times. The *Legendary Period* may therefore be said to close with the end of the Norman invasions, or about the first quarter of the tenth century.

The next period may, with considerable latitude of meaning, be termed the *ROMANESQUE PERIOD*, including churches built before the last quarter of the twelfth century. It was an epoch in which wooden roofs and hasty and insufficient construction abounded, though neither the one nor the other were universally characteristic of the churches of the time. In the south of France, especially, a widely-distributed group of Romanesque churches were to be found that were vaulted from the very beginning. France was becoming settled; politically and mentally the people were preparing for the *GOLDEN AGE* of cathedral building—the thirteenth century. The great revival of cathedral building in that era, however, was not wholly a free outburst of enthusiasm, but often an absolute necessity. The most potent cause in the development of Gothic architect-

ure was fire. The wood roofs and slight construction of many Romanesque cathedrals made them easy prey for the flames, caused by carelessness, by war or by lightning. Thus it happens that very nearly all of the rebuildings and reconstructions with which the Gothic period is filled were due primarily to destruction, either in whole or in part, by fire. Perhaps at no period in the history of architecture was this element so useful in furthering the cause of art, nor did it ever bring about the erection of more artistic and beautiful buildings than followed its path in Northern France in the thirteenth century.

The blight of the English wars in the fourteenth century well nigh put an end to permanent and extensive work, though some few cathedrals were carried forward, notably the west front of Reims, built from designs perfected in the preceding century, and one or two, as S. Bertrand-de-Comminges, actually begun. Then, to continue a general classification, came the FINAL GOTHIC PERIOD in the fifteenth and sixteenth centuries, in which the work of the thirteenth was continued in a new form and under different conditions. This was followed by the RENAISSANCE PERIOD of the seventeenth and eighteenth centuries, when classic forms found high favor, and much mediæval work was displaced for imagined improvements in the new style. Several cathedrals were built in this time, those of Blois, Nancy and Versailles serving as typical examples, not only of the architecture used, but of the insignificant place cathedrals and cathedral building held in the minds of the people of this time.

Even as far back as the Final Gothic Period the hand of the iconoclast had pointed the way to the extinction of cathedral building and the end of the old religious life. The ravages of the Protestants in the sixteenth century left indelible marks of willful violence on many a monument of mediæval religious fervor. Scarcely a cathedral in France but suffered from the blind bigotry, malicious hatred and misguided enthusiasm of the French Protestants, who saw only idolatrous sinfulness in the pious work of the thirteenth century. Thousands of

painted windows, countless statues and innumerable articles of church furniture and decoration perished at their hands. Fortunately France had no Henry VIII. to give official sanction to these outrages upon art or to lead in these atrocities. The fabrics of the cathedrals, save in a few instances, were practically uninjured, but when this wild madness had had its day it was to strangely dismantled churches that the worshippers returned.

The cathedrals of France never recovered from this devastation. Such restorations as were attempted were, in many instances, in the newly introduced Renaissance style, utterly out of keeping with the spirit and form of cathedral building. But worse was to come. In the eighteenth century a spirit of reformation and rebuilding began to be manifested in the cathedrals, almost as disastrous and quite as unreasoning and wild as the ravages of the Protestants, from which it differed only in the absence of willful maliciousness. It consisted in nothing less than attempts at "modernizing" the cathedral interiors. Altars were removed and their places taken by the barbarous structures which now disgrace so many French churches. Tombs were torn up and destroyed, either because partially injured or to make way for some projected "improvements." The crowning misfortune was the destruction of the jubés or rood screens, as they are called in England, whose removal has given the modern French cathedral that general open appearance that strangely contrasts with the closed naves of English cathedrals. The cathedrals which suffered in this one thing would make a formidable list, including nearly the whole number. The misguided men who undertook this work were not satisfied with destruction but must needs complete their barbaric task by reconstruction. Sanctuary walls were removed to give place to barbarisms, such as may be seen at Chartres and many another cathedral, totally out of keeping with the architecture of the edifice, but which seemed to offer no incongruity to their makers. The bad taste

of the modern sanctuary walls is only exceeded by that of the modern high altars over which figures of angels and other beings float on clouds of marble or of wood.

No one seemed to have had either the sense or the power to mitigate these innovations, but the history of the French cathedrals in the eighteenth century is not limited to such misfortunes. A Revolution that consecrated itself by the murder of a well-meaning but unfortunate king, and a queen whose greatest sin was want of tact and wisdom, and both of whom were the human representatives of centuries of divinely consecrated government, could very well suppose it might dispense with the Deity. The cathedrals not only became national property, but worship in them was discontinued. God having been abolished by Act of Assembly, the vast wealth that for centuries had been accumulating in His churches became, like them, national property. The rich treasures of the cathedrals, the hoarded wealth of sacred shrines, the very vessels of the altars were seized in the name of the nation. Incalculable treasures of art were deliberately destroyed that the precious stones and metals used in them might add to the wealth of the most rabid iconoclasts the world has seen. Nor did the baser metals escape confiscation; lead roofs and copper railings were destroyed to make ammunition and guns for the revolutionary troops. The tombs of saints and of sovereigns were desecrated, and the relics and bodies destroyed as accursed things. Even the wholesale destruction and sale of cathedrals was debated, and the horrible desecration of the royal abbey of S. Denis was a fitting climax to this unholy work.

But the end was not yet. God had indeed been abolished, but the idea of worship was too firmly imbedded in the human breast for all thought of deity to be disposed of by a brief legislative enactment. Scarcely had the cathedrals been closed than they were reopened, for the worship of Reason. Intoxicated with the blood of innocent victims, the men of 1793, wrapped in an impenetrable mantle of egotism and in-

fallibility that out-poped the most papal occupant of the throne of S. Peter, inscribed over the great door of the Cathedral of Reims the significant words

“TEMPLE DE LA RAISON.”

Festivals were celebrated at the high altar in honor of the brand-new deity, who was similarly adored throughout the country. In Paris, a singer of the Opera personated the freshly created goddess, and was borne in state to the Cathedral of Notre Dame, and, seated upon the high altar of the desecrated church, received the personal homage of the National Convention. The end was reached. Human imagination, human profanation of sacred things could reach no sublimer height. Contempt for God Almighty could find no more complete expression.

Was it for this the men of the thirteenth century had poured out their treasure? Was it for this the faithful of six centuries had brought their wealth to their churches? Was it for this the most deeply religious art the world has seen rose and flourished and left its monuments to the care of later generations? The very impetuosity of the desecrations of the French churches in 1793 show how close they stood to the thoughts of the people, that even in time of wildest political and intellectual ferment no insult was neglected that might cover these splendid memorials of a saner time with endiess shame.

The Revolution exhausted itself in time to prevent the total destruction of the cathedrals of France. The REVOLUTIONARY PERIOD in the history of the cathedrals was followed, in the first years of this century, by such necessary restoration and repair as would permit the cathedrals to be put to their normal uses. Then comes the final period of cathedral life in France, as we know it, the PERIOD OF RESTORATION in which we are living.

It is one of the strange things of this age in which archæological specialists abound, when the sources of mediæval learning and life were never so accessible nor so largely used, in which culture, refinement and knowledge have be-

come the most desired and most desirable of human attributes, that no sooner is the step of the restorer heard advancing toward some monument of the past than a tremendous hue and cry is raised to stop him and prevent his work. And it is a fact, the more disgraceful because often attributable to experienced and trained hands, that the restorer has done as much harm as the iconoclast. Almost, but not quite. The sins of the restorer are grievous, but he is, very largely, a necessity of the time. He has saved many an old building, he has preserved many a work of art, even his misdeeds have been useful in attracting attention to his performances and preventing complete destruction. His greatest misfortunes have been his zeal and his opinions; the one leading him to undertake too much, the other tempting him to improve on what was already the best.

The history of the cathedrals of France has been strangely eventful. Few edifices have submitted to the maltreatment they have been subjected to and survived with so little harm. It would be strange indeed if, after five, six and even seven centuries of troubled existence, they should not need the help of the loving caretaker. This the restorer has not always been, but with all his faults and blemishes, with all the harm he has wrought, with all the evil he has done, his work has been chiefly unavoidable. No one will be rash enough to contend that when the roof of the Cathedral of Chartres was burned in 1836, and much of its stonework injured, it should not have been rebuilt and restored to its former form with all the haste and care that good work permitted. On the other hand, when the central tower of the Cathedral of Rouen was destroyed in 1514 little praise could be said for the Renaissance structure that replaced it, and when this, in turn, was destroyed in 1822, no word whatever of commendation can be found for those who began its restoration with the present iron monstrosity, whose building was continued from 1837 to 1876. Nor can any satisfaction be felt in the restoration which the Cathedral of Périgueux has recently undergone, which was so

complete that the tower was taken down that it might be rebuilt, a process, it is scarcely necessary to say, that has taken away from this rare old church much of its beauty and interest.

Yet, while in this and many other instances it is easy to find fault with the restorer, we should remember that these buildings have not survived for our delight alone. Cathedrals that have stood the brunt of war and siege and religious fanaticism, and that survived the orgies of the Revolution, must be destined to instruct other ages than ours, and educate other eyes than those of the nineteenth century. And in the effort to preserve these buildings for future generations the restorer finds his excuse and his duty.

III.

The history of no French city is complete without the story of its cathedral. Each epoch of French history is as deeply marked upon cathedral walls as though they had been built for no other purpose than to record them. A sketch, in briefest outline, will show how true this is, and illustrate how large an influence events not architectural had upon their history.

Five cathedrals have successively occupied the site upon which stands the Cathedral of Chartres, the present great edifice being the last of the series. Tradition has it that on this spot the Druids had prepared a cave and erected an altar to *Virgini paritura* before the beginning of Christianity. The first three cathedrals, belonging to what we have called the Legendary Period, have utterly passed away, and of the fourth, that founded by the great Bishop Fulbert in 1020, there only remains portions of the crypt and the west front, including parts of the north tower and the whole of the south tower, though only the remnants of the crypt are the work of Fulbert himself, the spire of the south tower having been completed about 1176. In 1194 the body of the cathedral was destroyed by fire, only the parts just named surviving. The catastrophe happened at the most auspicious time. Architectural fervor was never at greater heat nor was

the enthusiasm of the populace ever shown with greater force than in the rebuilding of this cathedral, which was pushed with so much vigor that the choir was used for worship in 1198, if not in whole, certainly in parts. The choir and nave were finished by the end of the reign of Philip Augustus, but the consecration of the cathedral, celebrated in the presence of S. Louis and his family, and an immense concourse of prelates, priests and people, only took place in 1260.

Little was done in the fourteenth century. The cathedral was practically complete, but the gables of the three façades, the statuary of the south porch, and the chapel of S. Piat date from this time. It was a troublesome period for France, and politically the people were quite incapacitated for large architectural undertakings. The fifteenth century was scarcely marked upon the fabric of the cathedral so far as fresh work was concerned. In the sixteenth the northern spire was burned in a Protestant seige, and the present graceful and exquisite structure erected. The choir screen, begun also in this century, was the last really important architectural work done to the cathedral. Not completed until the eighteenth century, the choir screen of Chartres is one of the few monuments which connect modern times with mediæval. Almost the last of its kind; this final adornment of a mediæval cathedral was completed in the same century, which, later, was to witness the most deliberate attempts to wreck its artistic harmony. The spirit of Gothic architecture was long since dead, but our own more catholic age can scarcely understand—it certainly would not tolerate—the internal destruction which began in 1753 with

alleged modern decorations. Modern they unmistakably are, but it is not to the credit of their age that, at almost the very moment when this great mediæval monument was completed, hands should have been stretched forth to mar its symmetry and destroy the loving work of earlier times. The desecration of the cathedral during the Revolution, the taking off of the leaden roof of the transepts, the destruction of many ornaments, was a fitting climax to the work of the eighteenth century, the most unkind of all to the cathedrals of France.

Seven hundred years ago, less one, the present Cathedral of Chartres began to rise above the ground. At the beginning of this century its life seemed all but exhausted. Damaged by lightning in 1825, it suffered severely from fire in 1836. The rebuilding then begun, continued in many careful restorations, has not yet been completed.

Friend and foe, the mediævalist and the modern, the builder, the destroyer, and the restorer have dowered it with memories, each one of which helps to make it what it is. Though the history of the Cathedral of Chartres has not been as rich in stirring events and exciting episodes as many another French cathedral—those of Paris and Reims, for example—it epitomizes the whole of French history and thought. The chronology of a church dedicated by S. Louis, in which Henry IV., casting aside his Protestantism, was anointed with the sacred oil sent by heaven to Clovis, and which lasted until human thought had progressed sufficiently to dedicate its ancient walls to the Goddess of Reason, cannot but have a lasting and impressive interest to every student of history and of architecture.

Barr Ferree.



ARCHITECTURAL ABERRATIONS.*

No. 8.—THE CHICAGO BOARD OF TRADE.



THE architects and the cultivated persons of Chicago would probably object to having the building of the Board of Trade exhibited as a typical building of their town. If it were typical it would no longer be suitable for our purpose, since it would not be an aberration. And yet it is typical of something that has been. It will be recognized by everybody as a product of that stage of American architecture when the practitioners of the same were very ambitious to make an impression and to "collar the eye," but when their ambition did not lead them to acquire any knowledge of their art, or to submit their designs to revision in the light either of reason or of precedent. While we all recognize, in a building like this, that it was typical, we recognize that it is so no longer. Our architects still do bad things, Heaven knows, but they are not bad in this way any more. This wild autochthonous architecture one might still expect to find in Helena or Seattle, perchance, or in darkest Philadelphia, which is a kind of palæontological museum of building, and where aboriginal architecture is still cultivated amid the facile plaudits of the population. But to come upon a specimen of

it in commercial Chicago is like a glimpse of a prehistoric world.

"Men bring not back the mastodon, nor we those times."

The most striking lesson such a structure has to convey is of the rapidity with which we move in these matters. It has a flavor of mouldy and fish-like antiquity, has the Chicago Board of Trade, like a relic of immemorial time, and yet we know it cannot be so ancient as all that, seeing that the fire from which everything in Chicago dates, and which swept (and garnished) the business quarter, occurred in the year 1871. As a matter of fact the antique but unwelcome Board of Trade dates back only to the year 1883, A. U. C. 12. Wonderful things have been done in these ten years, and one of them is to make a building which was at the beginning of that time the pride of Chicago a laughing stock to the hustling "operators" themselves to accommodate whose operations it was erected. Our illustration shows the advance that has been made, in the corner of the Phoenix building, which is seen just beyond the Board of Trade, and the solid, massive and business-like aspect of which offers so sharp a contrast to the fantastic crudity of the older building. In character, and in the character of the public

* We are making a collection of "Aberrations," and shall present one to our readers in each number of THE ARCHITECTURAL RECORD.

appreciation which architecture always to some extent denotes, the two things are generations apart, and it seems almost incredible that they should have been in point of fact erected within five years of each other.

One can imagine the designer of the newer building envying to the designer of the older his problem and his opportunity. For, in truth, the design of a commercial elevator-building is a rather thankless task, in which success is to avoid ignominious failure. Magnitude is, of course, a great element in expressiveness and mere altitude is an element of magnitude. But to build innumerable stories all alike in purpose and requirement and to make out of them something that is an organism, with related and interdependent parts, without making the composition obviously artificial and arbitrary, to avoid restlessness on the one hand and monotony on the other, to gain variety in unity—this is an almost hopeless task when one is dealing with a multiplicity of the same elements. The task is so difficult and thankless that we are inclined to be thankful to the author of a very moderate success in this kind, and to make constant allowances for the difficulties of the architect is one of the first duties of a critic. The *London Saturday Review* not long ago committed the absurd blunder of holding American architects responsible for the nature of their problems, and blaming them, with much asperity, for erecting buildings twelve or fourteen stories high. The designer of such buildings must often feel himself about his own work in the predicament which Dr. Johnson described about his: "Every other author may aspire to praise; the lexicographer can only hope to escape reproach."

What would the sensitive and artistic author of an elevator building give to have such an architectural problem propounded to him as that which was set before the architect of the Chicago Board of Trade. New as it comparatively is, it yet antedates almost all of the elevator-buildings of Chicago. At any rate, it was composed when the notion that

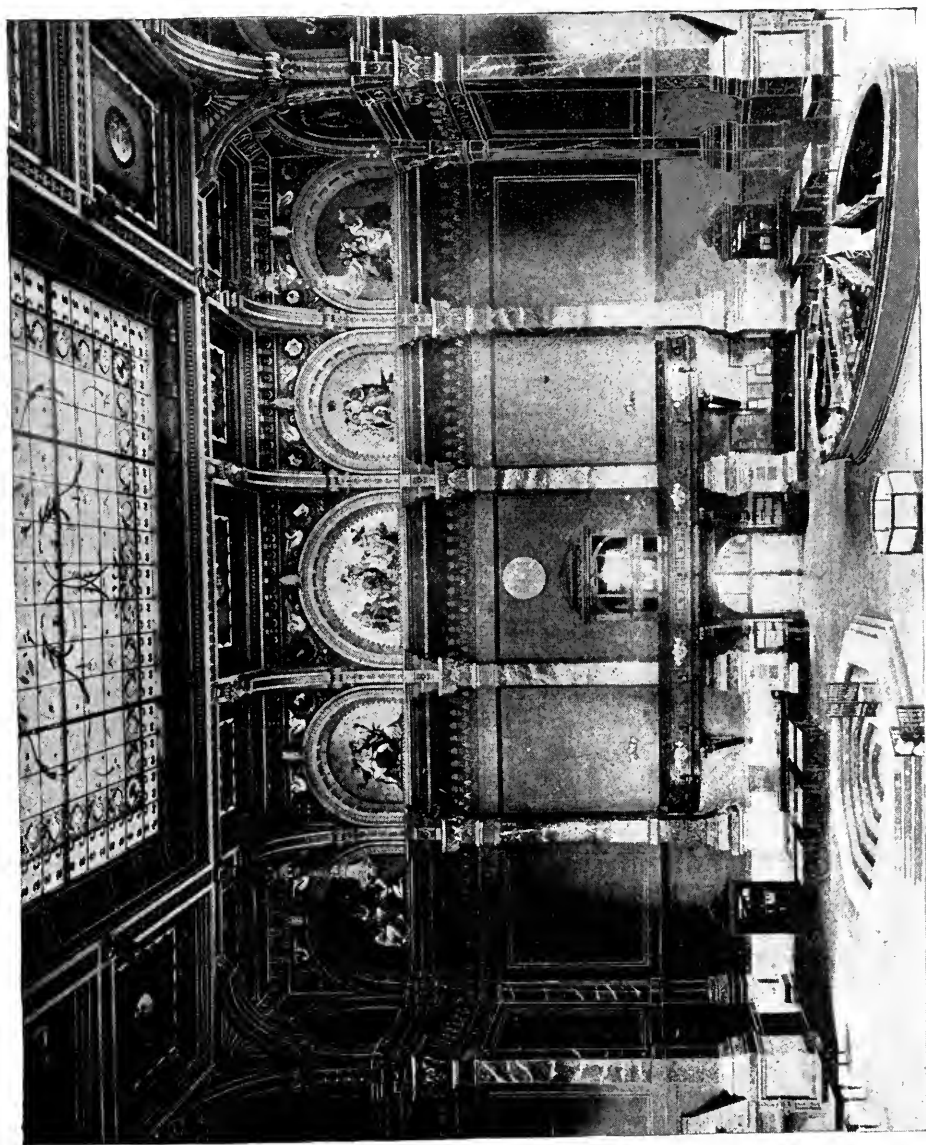
an institution like a great commercial Exchange could not be housed by itself, but must be overlaid or underlaid with tiers of rooms for rental, quite irrelevant to its main purpose and architecturally destructive of that purpose, had not yet taken possession of the Chicago commercial mind, although the New York commercial mind had already been possessed by it, and was rejoicing in an Exchange constructed in accordance with it. For the Board of Trade building is simply and solely what its name denotes, a building containing a great hall for the use of the Exchange, with the necessary appurtenances of the same. The civic pride and the guild-feeling of the operators of Chicago are very great, as nobody can fail to be aware who has had the advantage of conversing with any of them. They are ready to spend all the money that might be required, and there were no extraneous conditions to prevent the architect from making a noble and monumental building out of their requirements.

We see what he has done. He has produced a monument of what we have called fantastic crudity. No straightforward supply of a physical demand for shelter could ever have produced anything so offensive as this structure. In fact, it is doubtful if such a course can result in anything that is offensive at all. It is only when a person who is not an artist is doing what he fondly imagines to be a work of art that offensiveness and vulgarity are introduced. When the "architect" undertakes a "fancy building" his work becomes a work of pain and he an object of pity. In the example of fantastic crudity at present under consideration it is the strain to do something novel that makes it most intolerable, and that deprives it of all dignity and all repose. In the general composition of such a building some effort seems to be required to go amiss. The thing to be done with a building that consists virtually of a great hall is to set the great hall on a low basement and cover it with a roof. Here there would already be a triple composition, of which one member was



Chicago, Ill.

THE BOARD OF TRADE BUILDING.

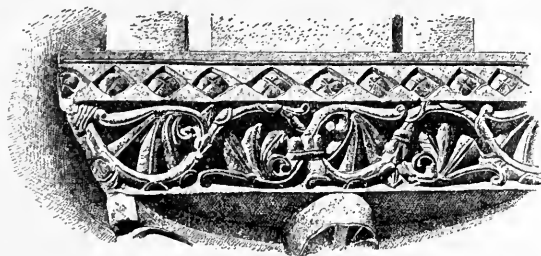


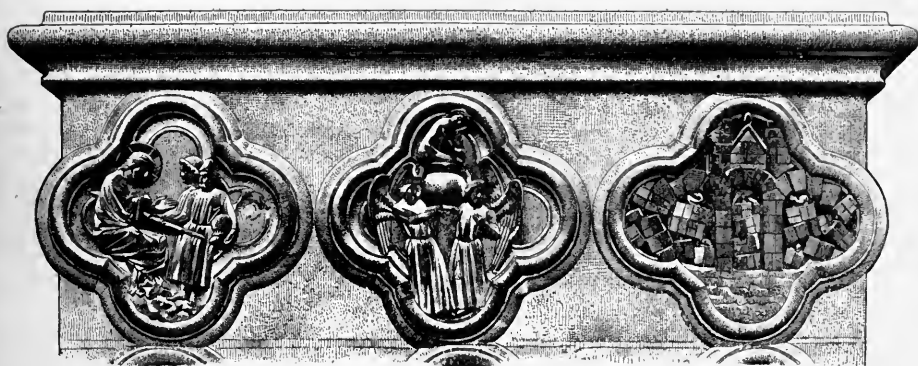
INTERIOR OF THE BOARD OF TRADE.

predominant. But, in fact, the disposition adopted is such that the second story is very nearly equal in magnitude and importance to the first, and the inherent impressiveness of the natural disposition of parts is lost. The windows of the great hall should be a range of ample and similar openings, inclosed between sufficient piers, and it would be hard to deprive such a feature of repose. Here again the natural and obvious arrangement is supplanted by an arrangement which is supposed to be artistic because it is artificial. The openings are not only not of the same size, being varied capriciously, but they are not even in the same plane, and they are still further variegated by the fact that while the springing course of some is marked by a decorated band just under the segmental arch, in others the arch is stilted from the level of the transom. The former arrangement is the more eligible, but either would be far less distressing than a mixture of the two. Continuity, in fact, is everywhere avoided and interrupted in all the lines, and perhaps it is to the solution of continuity that the uneasiness of the building is attributable more than to any other single fact about it. The angle-pavilions are projected from the plane of the wall, and the tower at the centre of the principal front is projected again beyond the plane of the pavilions, while the doorway at the base of the tower is crowned with a projecting shelf of which the level is that of no other line, and which thus destroys

whatever effect the expanse of the front might otherwise have made. Add to this that the piers at the angles are painfully thin and weak, that the openings are very painful in form, that there is nowhere anything that can be called modeling, but that the decoration is an application of objects irrelevant to the structure, and crude and unstudied in themselves, and the violent ugliness of the structure is in great part explained. As for the culminations of the structure, the roofs of the pavilions, and especially the form and contour and division and detail of the tower, these are things not to be criticised or described, but only to be pointed out as the vagaries of fantastic crudity.

The architects of Chicago would resent the imputation that the Board of Trade Building was characteristic of the town, and their resentment would be just. It is an example of what might not so many years ago have been seen in almost any American town, and may still be seen in many American towns, though not often on a scale that makes it so conspicuous and therefore so offensive. Rightly considered, it is a tribute to the progress of architecture in Chicago and to the work of the architects. Although so young, it is already hopelessly old-fashioned, the like of it could not possibly be erected now, and it is out of the question that any important building of the present or the future Chicago can be so hopelessly bad.





KYPROS, THE BIBLE, AND HOMER.*



THIS monumental work, consisting of five hundred and thirty royal octavo pages of text and two hundred and eighteen plates containing about two thousand illustrations, has been published simultaneously in German and in English translation. The author is personally and favorably known in America through lectures on Cyprus recently delivered in Philadelphia, New York and Brooklyn, and the Philadelphia Museum has just acquired from him a valuable collection of Cypriote Antiquities. During his visit to this country the German Emperor has moreover allotted a government subvention of twenty-five thousand marks for the publication of his forthcoming work on Tamassos, the site of his most recent and in some senses most important excavations.

Dr. Max Ohnefalsch-Richter stands before the world to-day as the one person who has applied scientific methods to the making and record of excavations on a large scale in Cyprus. This is patent from the most rapid glance at the present publication, by contrast with all that has previously appeared on the subject, but his reputation on this head has been already

established during the last fourteen years through the notices of his excavations which have been published by other scholars. Among these may be named Sayce, Helbig Dümmler, Dörpfeld, Fürtwängler and Reinach. The latter has been especially active in making contributions to the *Revue Archéologique* on the subject of these Cypriote excavations.

This being the present reputation and standing of our author, and in view of the fact that America possesses by far the finest collection of Cypriote antiquities in the world in the Cesnola Collections of the New York Museum, it is clear that his book must arouse the interest of American students and that it is destined to be widely known in this country. Before visiting America Dr. Ohnefalsch-Richter had already published his belief that the world will never see another collection of Cypriote jewelry like that made by Gen. Cesnola, and I have personal cause to know that his verdict on the stone sculptures and on the pottery given since his arrival is not less enthusiastic. On the other hand, his disgust for the absence of designation, classification and labeling, and for the wholesale confusion, disorder and blank chaos of disarrangement in the Cesnola collections has been no less openly proclaimed.

* Oriental Civilization, Art and Religion, in Ancient Times, elucidated by the author's own researches and excavations during twelve years' work in Cyprus. By Max Ohnefalsch-Richter, Ph. D., with a letter to the author from the Right Hon. W. E. Gladstone. Asher & Co., London. Price £9.

In this disgust it is safe to say that he has been anticipated by every serious student who has ever visited the Cesnola collections since their first installment in the Douglas mansion in Fourteenth street some twenty years ago. The arrangements there were, however, far superior to those which have since been made in Central Park. At present the death of three living persons, of whom Gen. Cesnola is one, would result in confounding the Cesnola collections in one hopeless mess for all future time with a large number of terra cottas from Asia Minor, with certain portions of the Drexel collection and with a whole series of Greek-Italian vases. The present arrangement of certain shelves seems expressly designed to create the impression that these collections are a unit, and when the personal knowledge and recollection of one or two persons are no longer accessible it would become permanently impossible to reparate the Drexel Egyptian objects, the Asia Minor terra cottas and the Greek-Italian vases from the more or less similar antiquities found in Cyprus by Cesnola.

These present indications of want of system or of interest in system in the museum arranged by Gen. Cesnola have notorious counterparts and countless parallels well known to all European students since the first days of Gen. Cesnola's activity in Cyprus in his records and accounts of discoveries made there. Hence the importance of Ohnefalsch-Richter's book, and hence the attention which his own more conscientious excavations in Cyprus have received from European scholars.

It was about 1869 that the eyes of the archæologic world was first directed to this island. Photographs of various antiquities collected by the American Consul Cesnola were sent out by him to various museums with a view to sale of the objects, and the Berlin Museum dispatched Professor Carl Friederichs to inspect and buy the collection if desirable. It was my good fortune to be one of Friederich's pupils at that time and to accompany him as far as Cyprus, at which point I left him

for a trip in Syria. A few months later than his purchase of the first Cesnola collection (which was not a large one) for Berlin, the discovery was made at Athienon of an enormous mass of statues now in New York. With them are now mixed together many others from other parts of the island. The outbreak of the Franco-Prussian war a few months after the discovery (1870) had the result of interfering with a prospective sale of these to the French Government, and the other governments of continental Europe, were likewise prevented by the same war from taking steps for their acquisition. Hence a subsequent shipment to London and the negotiations with the British Museum, which were broken off by the American purchase. Meantime, before the shipments to London, a large collection of terra cottas, glass, pottery, metals and minor objects had been excavated by Cesnola from Cypriote tombs or sanctuaries (only the terra cotta statuettes, but not all of these, from the sanctuaries). These were all acquired, together with the stone sculptures, by the New York Museum for the modest sum (actual value considered) of \$50,000.

A later purchase and the result of later excavations were the jewelry, gems and other objects, said to include the so-called "temple treasure" of Curium. The objects of pottery and bronze formerly placed in one Museum case as belonging to this "temple treasure" are now dispensed through various cases without special labels, and the few cards placed in the jewelry cases give free scope to the imagination of the individual student as to what does and what does not belong to this "temple treasure." Dr. Ohnefalsch-Richter has examined the described site of discovery without finding the temple vaults described in Gen. Cesnola's work, but there is no doubt that a royal *tomb-treasure* of extraordinary value was discovered at Curium, and that its contents are now in New York. What these contents actually were will probably not be one of the death-bed confessions of Gen. Cesnola, because it would require a person in full bodily

vigor to go about among the Museum cases to specify them.

I have made this mention of the Cypriote antiquities in New York because any account of Ohnefalsch-Richter's book seems to make this a necessary preliminary. Let us now rehearse the present condition of the finest collection of Cypriote art in the world. The stone implements from tombs are massed together as distinct from a system which would show with what other objects they were found. There is no information accessible as to the styles of pottery with which they were excavated; the same holds of the objects of iron and bronze, of the gems, jewelry and terra cottas. As for the pottery, it is not classified on any system, excepting that of the most obvious external resemblances, and even these are disregarded in some cases. The statues are thrown together without reference to any system of arrangement, whether that of locality of find, style, period, or subject. Add finally that the cases are entirely without labels as to the above points and occasionally provided with misleading labels as to what is and what is not Cypriote.

Let it now be remembered, to make this confusion appear worse confounded, that there were three distinct races on Cyprus: the Pre-historic, the Phenician, and the Greek; that Egyptian, Assyrian and Chaldean style-influences cross and recross one another in the works of all these races; that Cypriote art is, in the matter of period, partly Oriental, partly Greek, and partly Roman; and when it is considered that no reference is apparent in the Museum classification to any of these facts, it will be evident that the inquiring mind has not much facility for obtaining information about Cypriote art in New York. An opera bouffe is the only parallel to its Museum. In other words, the energy and perseverance with which Gen. Cesnola ransacked the Island of Cyprus for antiquities has been only equaled by his indifference to the historic problems which his discoveries raised and suggested. His commercial interest has been satisfied and he can have had no other.

But these same problems happen to be crucial for the origins of Greek art. We have seen that Cypriote art was practically unknown to students before 1869 or 1870. That it is of highly novel character has been always admitted since Cesnola's discoveries, and that this character is apparently a hybrid mixture of Greek and Oriental influences is obvious. But European students have been crippled in their studies of it; first, because the most important objects were in New York; second, because aspersions had been cast upon the authenticity of the objects, which they could not test; third, because information procured from Gen. Cesnola's book and from catalogues dependent on his word as to locality of finds was subject to suspicion. These suspicions and uncertainties of European scholars are illustrated by the mission of Professor Dümmler, who was sent to Cyprus by the German Imperial Institute of Archæology, to test the accounts of Gen. Cesnola as to his finds of pottery, and by Dümmler's published report on these subjects, made through material furnished by Ohnefalsch-Richter.

It was about the time when Gen. Cesnola became Director of the New York Museum, that Dr. Ohnefalsch-Richter began his activity in Cyprus. I shall quote, for his personal history before and at this time, from the introduction to his thesis presented to the University of Leipzig on the conferring of his degree of Ph. D. Born in Saxony in 1850; agriculture was his original profession, and this profession is made, in Germany, a matter of University education. "I studied Agriculture, Political Economy and Natural Sciences at the University of Halle. During the five years following, I lived for the most part in Italy, where I chiefly devoted myself to the study of art, practising painting and learning photography. At this time, I first began to do some literary work, writing about Italy. When the world was surprised by the British occupation of Cyprus, in 1878, I was in Munich, having come there from Italy for a few months, in order to perfect myself in photography. I cherished the intention of

returning to Southern Italy, in order to prepare an illustrated work dealing with its culture history. The English occupation of the famous island, Franz von Löher's travel sketches, and Louis Palma di Cesnola's discoveries soon matured in me the resolve to make a pilgrimage eastward to a land where I saw that many spoils still awaited the student of its art and civilization . . . This is the beginning of my career as an archæologist."

Dr. Ohnefalsch-Richter's excavations in Cyprus date between 1880 and 1889 inclusive. They were made partly in tombs, partly on the sites of sanctuaries. Of the latter those at Voni, Franqissa and Idalian yielded an enormous aggregate of stone sculptures. The principal cemeteries dug out by Richter were those at Hagia Paraskevi and Marion-Arsinœ. He was at first employed by the British Museum and ultimately by the Museum of Berlin. Some of his most important discoveries were made on the account of English officials resident on the Island whose personal interest in the matter was confined to the commercial value and sale of the antiquities discovered. These are, consequently, scattered in various quarters. Many of his most valuable finds are in the Cyprus Museum at Nicosia. In looking for the general aggregate result of these excavations we cannot consequently point to any one collection comparable to the Collection Cesnola, and even when all these results are summed together there would still remain as unrivaled pieces certain statues and sarcophagi of the New York Museum and many of its engraved gems and objects of jewelry. In the department of painted "Greco-Phœnician" vases the aggregate result of Ohnefalsch-Richter's excavations would not apparently rival the aggregate of Cesnola's, who had the grand advantage of being first in the field. On the other hand, Richter's discoveries of prehistoric vases surpass Cesnola's in quantity and value and he has discovered one most important class unknown to the Cesnola Collection, viz., the prehistoric vases with raised reliefs of animals and trees. (Richter has also discovered a new

class of Attic vases hitherto unknown and made expressly for Cypriote import.)

It is when we turn to the scientific use of material discovered that Richter's work emerges and isolates itself, and it is safe to say that whatever is ultimately and definitely known about and through the Collection Cesnola will be due to him. As far as his book is concerned, considering its plates as an illustrated epitome of Cypriote art, he has drawn on every important source open to him, including many of Cesnola's discoveries, especially those to be found in Berlin. His personal attitude to this excavator is best stated by himself (thesis for the Doctor's degree): "If at first and until I pointed out numerous errors and inaccuracies, too implicit trust was placed in the guidance of Cesnola's brightly-written book, now in my opinion his critics, and especially the English archæologists working for the Cyprus Exploration Fund, have sinned in the excess of their distrust."

It is not, however, with Cesnola but with Perrot that Richter must be compared when a general conception of Cypriote art, and of its place in archæology, is in question, this being a question which Cesnola has never even remotely approached or taken up. On this head it must be said that Perrot's great work on the history of ancient art has failed in the volume for Cyprus to rightly appreciate its significance. This may be because Perrot drew largely for his illustration matter on photographs forwarded from New York, without ever having seen the originals of the pictures, or the entire mass of objects with which those illustrated are associated. It may also be because Perrot's book is essentially a summary up to date of what the best special authorities have said, and because no authority had yet said distinctly what Cypriote art means for the general history of the subject.

At this point it is best to narrow our view for a moment to the art of statuary as being the one for which the character of a contention or variance of views may be most clearly stated, as it is obvious on all hands that the Cypriote statues of New York (of the earlie

periods) represent a hybrid mixture of Greek and Oriental traits. Perrot's view is that Cypriote art is at times a Greek provincial debasement of the higher art of the mother country, at times a provincial Phœnician debasement of the art of Assyria and Egypt. Richter's view is that Cypriote art in general, as far as sculpture goes, represents the first progressive stage of Greek art emerging from the Oriental, and that the earliest Greek art farther West is a progressive development from the Cypriote.

With this view I heartily coincide. I announced it myself in the *New York Independent* as far back as 1873, and I prophesied in that article that a similar style would be discovered in the Nile Delta if excavation were made on the site of its Greek colony. This prophecy was verified by Mr. Petrie, at Naukratis, in 1885. The same view (considering the Oriental origins of Greek sculpture as represented by Cypriote art) was announced by Sidney Colvin in his preface to the British Museum publication of photographs of the Cesnola stones which the Museum asked permission to make after losing the statues. The same view was held to my personal knowledge by my teacher, Professor Carl Friederichs, whose journey to Cyprus I have mentioned. It is generally admitted that Friederichs' book on the Berlin casts is the best extant contribution to the practical knowledge of Greek sculpture. This book was written before his contact with Cypriote art in 1869, and I was a personal witness to his subsequent conversion to a belief in the Oriental origins of Greek sculpture. These were not admitted by German archæology in 1869, nor are they now adequately or fully admitted, as Perrot's work is witness. Even where there has appeared, as in the case of the Naukratic excavations, a willingness to admit Egyptian influence on Greek sculpture, the significance of Cypriote finds in the same direction has been strangely ignored. We can only suggest two explanations—the distance of the Cesnola Collections from European scholarship and that archæological timidity in face of a new

problem which has also been so apparent in the case of the Mycenæan excavations.

For Americans may at present confidently announce the following points of view for the stone sculptures of the Cesnola Collection: First, all the stone statues represent Greek art, even those which are most dominantly Egyptian or Assyrian in appearance. Second, we are not dealing with a provincial debasement of Greek art in those types where Greek and Oriental characteristics are most plainly combined, but rather with a progressive evolution of Greek art which was a main motive power and basis for a corresponding evolution beyond the Cypriote stage for points farther West (the types published for Rhodian plastic art in Salzmänn *Nécropole de Camire* are highly important connecting links). Beyond these two points the later provincial character and arrested evolutionary stage of Cypriote art must be freely admitted and insisted on. This has been also pointed out by Richter. I have myself pointed out this factor of arrested evolution in Cypriote art in articles some time since contributed to the *Catholic World*, in the Metropolitan Museum of Art.

Its explanation lies in the set-back which the Cypriote Greeks experienced during and after the Persian wars, and in their minimized importance during the Periclean and Alexandrine periods.

If this much be said of the general import of Cypriote sculpture, as now for the first time definitely asserted, explained and illustrated, by an authoritative speaker, let us next ask what is to be learned from Ohnefalsch-Richter as to the subjects represented by the strange figures of Cypriote sculpture, as familiar to the frequenters of the New York Museum. On this head the book contains a mine of information, which it would not be wise to rehearse or summarize without the illustrated objects, but the general bearing of this information can be appreciated from one simple fact. Up to date not a single columnar Greek temple has been signalized for the periods in which Cypriote art attracts our deepest inter-

est. The book under review is the first which publishes *any* series of plans of Cypriote sanctuaries. All these plans are of irregular *temeni*. The sanctuaries were Oriental and to all appearance distinctly Syrian and Semitic in plan and arrangement. Is it then surprising to find that the deities worshiped in them are Grecianized amalgams of Syrian origin (by which words I do not question that the Syrian deities themselves are partly Assyro-Chaldean and partly Egyptian, or that the Isis-Hathor cult attested by various Cypriote pillars does not also imply relations by sea with Egypt)?

It is sufficiently known that the worship of Aphrodite was a ruling one on Cyprus, but the scholarship of Enman has contended at recent date that this Aphrodite was not derived from the Chaldean Istar (Syrian Astarte). That the typology of the Chaldean Istar survives even in the Medici Venus, a fact noticed by others, has been triumphantly redemonstrated by Richter in opposition to this view—a view which has been even quoted with approval by Dümmler.

On the head of Aphrodite-Astarte worship we also observe that the sanctuaries of Athienon *condensed* by Cesnola into *one* temple of Venus (Aphrodite-Astarte) are announced by Richter to have been *two* sanctuaries of Resef-Apollo. This fact may ultimately assist the student to discover which statues in New York do belong and which do not belong to the aforesaid collection from Athienon or Golgoi. At present we are mainly certain that the statues which are said by the Cesnola catalogue to be from other places do not come from Golgoi, but how far the Golgoi find has possessed the elastic capacities of the "temple-treasure of Curium" still remains to be discovered.

Otherwise we are now possessed of two highly important facts, and essentially new facts, about the Chaldean Istar, viz., that the typology and *worship* of ATHENE AND ARTEMIS are differentiations of her cult *as far as Cyprus is concerned*. Note the last italics, but note also that Richter observes that the high authority of the greatest historian

of Greece has contended that *all* Greek female deities have been differentiated from one Oriental deity. This has been said by Ernst Curtius from the standpoint of the mythologist and the man of letters. For Athene and Artemis we now have the testimony of inscriptions of terra cottas and of statues.

Finally, in the matter of deities; keeping to a summary of the most essential points brought out in "Kypros, the Bible and Homer," we notice that the Syrian god Resef now shines forth in full light as original of the Apollo of Amyclæ, and as the original form of the Cyprian Apollo. The identification of certain forms of Apollo on Cyprus with the Syrian Resef is not confined to Richter and rests originally on inscriptions, but the great importance and widespread prevalence of the Resef-Apollo worship of Cyprus has never previously appeared. I have been led myself by quite another road to suspect the importance of this god for Cyprus by studies on the symbolism of the gazelle, which forms a portion of his head dress on Egyptian paintings, and have published these suspicions among my own studies on the Cypriote vases. It is also known to me that Professor Sayre has recently devoted much notice to the importance of this god. A few years ago Resef was almost an unknown deity. Now he figures as the possible ancestor not only of the Cyprian but even of the Delphian Apollo.

But we have still left to be considered the entire subject of the tomb excavations of Cyprus. What has Ohnefalsch-Richter done for us here? Briefly this. He has classified the pottery according to the metals found in the graves, and as bronze was supplanted by iron in Cyprus at a time generally known by other evidence to have been between 1500 and 1200 B. C., he has been able to date the classes of Cypriote pottery accordingly. This idea was entirely overlooked by Cesnola. Those vases which we should otherwise specify as "prehistoric" Richter assigns to the period when copper and bronze are exclusively found in the graves as far as metals go (silver and gold being too

scanty in the "copper-bronze period" to count for much.)

These vases in the New York Museum may be roughly described as those imitating animal forms; those with incised geometric ornament; those of grayish white clay with black streaks, and those with plain burnished red clay surface and occasional but scanty ornaments in relief. According to Richter these specify a Thraco-Phrygian race preceding the Greeks and Phenecians, and its independent art disappears from Cyprus with the general displacement of bronze by iron. The flat plank-shaped terra cotta images and the rudest Istar images (bird-headed, with earrings, etc.,) belong to this race. To the "iron period" belongs the art of the Greeks and Phenecians. The well-known painted vases which are best known as Cypriote, and which are so largely represented in the New York Museum are called by Richter "Greco-Phenecian." He holds that they disappear with the sixth century. My own conviction is that these vases are Greek. The general and older belief is that they are Phenician. If the term Greco-Phenician is a concession to the older stage of belief, while tending to supplant and overthrow it, it may be well to let it stand, in view of the race mixture between Greeks and Phenicians which certainly took place in Cyprus, but I wish to point out that neither in Syria, Carthage, or Sardinia (our main points of observation for Phenician art outside of Cyprus) do any similar vases with painted figure ornament occur. Moreover the barbaric quality of the figure design does not correspond to the technical perfection of Phenician design as otherwise known. As regards the sixth century being the last in which these vases appear, I wish to point out that a vase published by Alexander Cesnola in his *Salaminia* is dated to the time of the Ptolemies by an inscription which was authenticated by Dr. Birch; but I do this with great deference to the superior information and knowledge of Dr. Richter.

At all events, the repeated explanations and assertions of Dr. Richter tend to emphasize the Greek element

during the period which he terms Greco-Phenician, and this is a point to be laid to heart by all who are interested in early Greek art and in Cyprus.

During the period between the exclusive use of iron and that of the exclusive use of bronze, the transition from bronze to iron, between about 1500 and 1000 B. C., Dr. Richter places the pottery found in Cyprus of the "Mycenæ" style. It may not be known to New Yorkers that their Museum contains a certain number of these vases. Many interesting relations of the "Mycenæ Culture" to Cyprus are brought out by other observations.

In turning from this brief summary of the matter on Cypriote pottery, it should be noticed that Dr. Richter's book is the first archaeological publication ever made which illustrates a large number of tomb finds by grouping *together* all the objects found in one tomb, of whatever material and class. It is obvious that this is not only the only method of moving from the known to the unknown, but the only way to offer a picture of an otherwise forgotten civilization. This classification is generally neglected by Museums, often necessarily so, as they rarely conduct their own excavations, and their objects are mainly obtained piecemeal. The Scandinavian Museums are the only ones which adopt this classification for tombs, but it is clearly the proper one not only for students, but also for popular interest. The hopeless chaos resulting from the dispersion of objects according to material of manufacture—as distinct from arrangement according to locality of final style and period—is apparent in the New York Museum, and any one wishing to penetrate this chaos will do well to consult the similar tomb finds as pictured *together* in Dr. Richter's book. (The height of absurdity in classification according to material was reached by the New York Museum when it created three curators—one for painting, one for *sculpture*, and one for *casts*.) The difference between plaster and marble was sufficient to create two officials for the same branch of study!

When we remember finally that Richter made these sketches of his tomb

finds in the cause of science, knowing often that the objects themselves were to be dispersed in auction sales, or otherwise, by his employes, it is obvious why he has achieved success. In the matter of conscientious record Mr. Petrie and Dr. Schliemann would appear to be his only rivals. It was, moreover, necessary to train the excavating workmen themselves to scientific habits. Of his best workmen Richter says (Thesis for the Doctor's Degree): "They could never understand and up to this day cannot quite realize that rusty and broken bits of iron have an archaeological (possibly even a material) value as high or even higher than gold bracelets. Only after many years have I been able to teach Gregori and Loiso that the discovery of things which cannot be exchanged for ready money, such as bones, ashes, lime, or traces of primitive walls, may be decisive for the success of an excavation."

I have reserved till the last mention of what seems to me the highest service of Dr. Richter's book. In the plates which compare the prehistoric relics of Cyprus with the prehistoric remains of Hissarlik, unearthed by Schliemann, we have a contribution to science whose value can scarcely be over-estimated. Let the reader make the comparisons and judge for himself. The discovery that the prehistoric race of Cyprus is identical with the prehistoric race of Troy is surely one to be quoted and made world-famous, and will surely ultimately lead to still more important facts in ancient history. It is the comparison of pottery and of implements as made on these places which carries conviction with it. A much more limited similar contrast of Hissarlik and Cypriote finds was published by Dümmler in

1886 with the same general argument in view. At this time Ohnefalsch-Richter was working in English employ and Dümmler's conclusions were in the first instance based on his excavations. Dümmler specifies the assistance afforded him by Richter during his own stay on the Island, together with his presence at the excavations conducted by the latter, and concludes his introduction to the announcement of the discovery with the remark that Ohnefalsch-Richter had previously reached the same conclusions.*

It goes without saying that I have left unmentioned long sections and entire chapters of Richter's book. My advice to the American reader is to begin with the plates and the plate descriptions as containing important matters of which the text proper contains no hint, and these the most important for a student of the Cesnola collections. Among so far unmentioned topics I specify the text chapters on the Sacred Tree, and on the Ashera. Professor Sayce had held the Ashera to be a goddess. Robertson Smith contended that it was a pest. Ohnefalsch-Richter proves that it was both. This does not leave much more to be said on the subject.

On the topic of the Sacred Tree I hold opinions to which I shall not attempt to convert Dr. Richter just here, and so I will bid him farewell, thanking him again for the gracious present which chanced to offer me an opportunity for this review, and also for the praises he has showered on my own contribution to the study of Cypriote art.

* Beobachtungen zu welches in der Hauptsache wol auch Ohnefalsch-Richter schon gelangt war.

Wm. H. Goodyear.

RAYMOND LEE.

CHAPTER XIV.

THE PARTING OF WAYS.

MARIAN was at a loss to understand completely the episode in the Carroll's drawing-room. She had been thrust, as it were, too suddenly into the "plot" to perceive instantly the significance of what had happened. The utmost she could grasp was that rivalry concerning herself had arisen between Ralph and Raymond, and even this was apparent in outline only.

About the new, surprised, half-realized understanding that had arisen between herself and Raymond there was a vague delightfulness which was not less sweet because it was incomplete, and left the indefinite reach of love, which always in such cases seems the infinite reach of love, yet to be traversed. But, as to Ralph, Marian could not keep regret regarding his position from warming a little into anger. Surely, in all fairness, he had acted with presumption in changing the step of their fellowship to a quicker pace without—and surely he *had* acted without it?—even the permission of encouragement? But certain as Marian felt on this point she couldn't argue herself into a really comfortable frame of mind. Ralph had thrust a dim but persistent sense of responsibility upon her, much as a beggar might upon the opulent by merely passing by.

On the way to the "Bungalow," on Sunday evening (Raymond had absented himself with the plea that he would find Ralph and then "follow on"), Marian endeavored to disclose to Mrs. Carroll, in a round-about way, what had happened, and was surprised at the readiness with which the

old lady, usually so reticent, hastened to conclusions that Marian thought were far in the background of the tale as she told it.

"Yes," "yes," "yes," whispered the old lady eagerly again and again as Marian halted in her attempt to reveal by a half-told story what had happened. She slipped the young girl's hand through her own, and stroked it lovingly as token of sympathy and interest. At the same time she slackened the pace of their walk so that the organist, proceeding in his unconscious fashion, might pass ahead out of hearing.

"Very, very friendly, indeed, of Mr. Lee," murmured the old lady, ready to approve of any step that tended to bring Marian and Ralph to an understanding. "We shall owe him a great deal. Eh, Marian, dear? I am afraid I am to blame for having been so unnecessarily cautious, but you know, dear—you won't mind my saying so now?—you *have* been quite secretive. Months ago I knew of Mr. Winter's affection for you (Marian started). Yes, dear, he told me. You don't object? For, as he said, I am, in a sense, your mother. He has been actuated by the very nicest feeling—and, though knowing even all I did, I could detect only once or twice any response on your part. I know he was discouraged many times, poor fellow. But go on with your tale, darling. I am so happy; almost as happy as you are, only not quite, and I want to hear it all. Of course, when Mr. Lee had finished, Ralph—we will call him Ralph now—walked in? Do you know I saw him hesitate a moment by the door as I was just coming down stairs, and you—do tell me, Marian—why, what *is* the matter, darling?"

"Oh, Mrs. Carroll, it isn't Mr. Winter."

Surprise arrested the old lady. Without a thought she exclaimed:

"Not that bookseller fellow, Marian!"

The tone of reproach stung Marian. She replied with determined frankness:

"Yes, that bookseller fellow."

"Forgive me, Marian. I was wrong to speak so, but—dear me, dear me, child—you have surprised me. Gracious! what will your father say? Poor Mr. Winter! You forgive me, Marian, don't you?" Marian smiled.

"Don't ask even. There is nothing to forgive."

Mr. Carroll had already arrived at the "Bungalow" gates, and turning around called aloud:

"Well, well, do I walk so fast?"

Though Mrs. Carroll lingered longer than usual that night at the "Bungalow," neither Raymond nor Ralph arrived. Consequently, it was with a slight feeling of anxiety that Marian found upon arriving at the schools next day that Ralph had not made his appearance there as usual. She was rather glad than not that she did not have to meet him under circumstances which she felt would be very trying, for neither was in a position to say anything openly to the other, yet could either forbear giving some expression to the change that had been made so suddenly in the old fellowship?

Marian's curiosity about Ralph increased as the day progressed without tidings from him, and more than once this curiosity was darkened by a passing presentiment of evil.

"Mr. Winter might at least have sent a word concerning his absence," thought Marian. "He must know his classes would await him. Dear! Dear! And he was doing *so* much. Surely it was not my fault. Poor fellow! He must have heard last night and understood. And, Raymond,—oh, Raymond! do you—? Am I selfish? No, child, that is not D. What is it, Mary? B; that is right. Mr. Winter must return. Surely I have some responsibility with him? My Father, am I doing wrong? Am I departing from the road it seems you bid me tread. No, Darling, no, that is F. Don't you see the big fish there, with the large round eye. Say F—f. So, and the next letter? Oh, Father, these are thy children, the little ones thou hast bidden me care for. Oh, Raymond, I do love you, but what am I to do?"

So, the day spinning along unraveled Marian's thoughts, until the setting sun came aslant through the school windows and lighted with a melancholy brightness the bare rude room which the children had just deserted. A sense of loneliness pained Marian as she prepared to depart for home. There came to her for a moment that dissatisfaction from afar, the feeling of unrest and longing which in so many cases is the torture of less securely centred spirits than hers.

She walked home to Eastchester. The evening air was fresh and pleasant and a soft presence very like the ripe summer with its golden aspect was on the hills. The yellow sunlight glimmered along the spring-green of the earth like a mellow sheen and attached long, dark shadows to the trees. In the twilighted hollows and on the shadow-side of the farmhouses and clusters of quaint country buildings which dot the way to Eastchester the air was tinged with a misty blue. The rooks were clanging settling themselves to rest in the tall trees around Elmwood as Marian passed, and further on in a tall willow a blackbird like the spirit of the evening poured out its song:

"That wild music burdening every bough."

Marian met farm carts lumbering along at a tired gait and laborers making their way homeward with something of the stolid obedience of the earth stamped upon their faces. Everything wore an air of passive sadness, of constraint and governance, of allotted ways and ordered necessities. There was a new unrest in Marian that strove against this depressing impression, but with painfully little success. The evening darkened, and she was glad to enter Eastchester and feel the hospitable comradeship of its houses and the sociable activity of its streets.

* * * * *

Upon arriving at the "Bungalow," Marian was surprised by finding the old bookseller's little daughter sitting patiently and demurely in the hall.

"What, Mag! You here! Come along with me, child. What is it?"

"Oh, please don't take your things off, Miss Marian. Ma sent me for you hours ago."

A little pain shot through Marian's heart.

"What is wrong, dear?" she asked, anxiously.

"Papa's got a letter from Ray, and he's sick."

"Who? Who is sick?"

"Pa."

"What's the matter with Mr. Lee?"

"Ray? He's gone away, Miss."

Mag began to cry.

Marian's face paled.

"Don't do that," she said, rather sternly. "Come, let us go."

And the two set out for the bookseller's.

There was only a smoky lamp burning in the musty store, and its light was almost as brown as the worn leather of the antique books. The place looked more like a tomb-chamber than an abode of the living—a tomb wherein reposed, Egyptian-fashion, some long-forgotten scribe with his books around him. The lamp made a small bright patch on the red table-cloth, and within the circle of its feeble rays Marian beheld the silver head of the dwarf bowed as though asleep. At the sound of her approach he raised himself and cried toward the darkness:

"Please don't bother me to-night. Don't talk to me. Please go."

"It is I, Mr. Wart," said Marian, coming forward.

"Oh! my good angel," he cried, pressing her hand upon his breast. "He used to call you the Princess, our Princess. Oh, Raymond!"

A great fear seized Marian. She threw herself at the old man's feet.

"What has happened to him, Mr. Wart?" she cried. "What has happened?"

"Read," said the dwarf, opening one of his hands, in which was a crumbled letter.

Marian read:

"Dear Good Friend: We cannot break away from the Past. It is the Destiny that pursues us. You know how hard I have tried, and now I find it was only to fail. I have striven to find another road but there is only one for me to take: I must leave you, dear old friend and father. *I love the Princess.* Need I tell you more to enable you to know that the step I am about to take is imperative? I must be true to Ralph and to her. I have struggled, you may feel how much, in the last few months and might have continued a little longer if my secret had not been read last Sunday by Ralph and the Princess herself. You know hope is impossible for me. Ralph thought me a traitor and fled to London. I found him here in despair and almost

delirious from I know not what excesses. He starts for America to-morrow and I go with him. By and by if things go well with me I will write to you. Continue the book. My small aid would count for little. Some publisher will surely take it up and if I should make money you shall have it—as a real contribution. Watch over the Princess for me and know that my love, thoughts and prayers and gratitude are ever with you. “RAYMOND.”

All the sweet music that had arisen in Marian's life ceased as by the snapping of the chords that made it.

“Raymond! Raymond!” she cried, piteously.

This unexpected note of grief startled the old bookseller and called him from the centre of his own trouble.

“Oh, Miss Marian,” he said, soothingly, taking her head between his hands. “Don't—why?”

“I have loved him ever—ever since the old days.”

“Loved my Raymond!” exclaimed the old man, utterly astonished.

Marian's eyes answered him.

“Give me the letter,” said the dwarf, eagerly.

He read it again in a hungry way.

“I see, I see,” he exclaimed, his eyes passing from line to line. “That cursed thing,” he cried, his voice rising. “What folly! He knows you love him, eh?”

“Yes,” answered Marian, softly, “I think so.”

“Oh! oh! oh! Why have I been so blind; why did I not see? Why didn't you say one word, give me the slightest hint?”

“Why?” asked Marian, bewildered by the old man's impetuosity.

“Why? Because I could have explained everything to you and this would not have been.”

“I do not understand,” said Marian.

“Of course you don't, my dear girl,” said the old man, his voice taking a softer tone. He paused. “Raymond has left us because he feels he may not accept your love.”

“Because of Mr. Winter?”

That idea had not been considered by the dwarf.

“Yes, no doubt—partly. But that isn't it. I suppose I ought to tell you. Raymond's father was hanged for murder.

Don't speak. Wait a minute ; hear all. He was hung unjustly—a damnable business.”

“Oh, Raymond !”

“Yes, the poor lad is to be pitied. It was the awful sense of disgrace that drove the poor mother to St. Michael's, where you first saw them.”

“But Mr. Fargus”

“Yes, yes, but let me tell you the story. It was from Mr. Fargus that Raymond learned it, and we have been hiding it here for years.”

The old man descended from his chair and, after helping Marian to arise, hobbled over to one of the upper bookshelves and took down a bundle of newspapers. He handed them to Marian.

“You will find there,” he said, “the entire public record of the case from the discovery of the crime—for a crime was committed—to the sad closing tragedy. I will tell you the story in outline if you like, and afterwards you can fill in the details yourself—Raymond and I have been over the ground so often.”

“Yes, do,” pleaded Marian, who felt she needed an external distraction to save herself from being overpowered by her own emotions.

“Well,” said the old man, speaking in a dreamy manner, pausing frequently as though his mind was chiefly occupied with something he was looking at, “I scarcely know where to begin, but few words are enough. First of all, Raymond's father was the great scientist—you have, no doubt, heard of him—Erasmus Brewer, whose sad fate everybody deplored. Raymond got the name Lee because his mother reverted to her maiden name, which was Lee, when she went to Seahaven to hide herself from public curiosity and her son from knowledge of his origin. The Brewers lived near London, they had a large house in Bainbridge, and were, of course, well known. The father at the time of the tragedy was a man, I think, of about forty—in the very hey-day of his powers. I have read his works, masculine, penetrative, aglow with the intelligence of a peculiarly rich and interpretative mind. He was one of those men who can build only on a large scale; and, it

appears that in the daily affairs of life, he proceeded with very little calculation. He was deficient in prudence and economy or, perhaps, I should say indifferent to them. He spent the last penny of his income, whatever it was, and not infrequently was in debt. Among the friends from whom he received accommodations was William Noble, a private banker, a man of uncertain disposition, generous or niggardly, according to how the world went with him. Brewer, it seems, borrowed of this Noble three thousand pounds which, when the day stipulated arrived, he was unable to repay. Noble pressed him for payment—these facts were adduced at the trial—and threatened to sue Brewer, or something of the sort. One night Noble, who had gone out to see Brewer to induce him to discharge the debt, had an altercation of some sort with the latter, a circumstance which was testified to by a friend Ayers, who was staying at Brewer's and by some of the servants. In the morning, Noble was found dead in the garden. Somebody had stabbed him. A knife, or dagger, was found in Brewer's room, stained with blood, and on Raymond's night-shirt—the lad was about four years old then—were bloody finger marks. I must tell you that the boy slept in an ante-room which had to be crossed to enter the father's chamber. You can see the result. Brewer was accused and arrested. The theory of the prosecution was that Brewer had slain Noble because of the latter's insistence or threats. What the verdict of the jury would have been but for the judge's summing up—which you should read—it is hard to say. But, as the newspapers said, the summing up was against the prisoner. The dangerous practice of allowing a judge to practically restate the evidence at the last moment of the trial undoubtedly determined Brewer's fate. He was sentenced and hanged. You will find in that bundle the last letter of the poor man. The hall-mark of veracity, the stamp which it is impossible to fabricate, is upon that final stoical assurance of his innocence which he sent to be a comforter to his wife. Mr. Fergus—his dearest friend—was with him to the last, and he will tell you of the certainty of Brewer's innocence now that you know the secret which he promised the mother he would keep from Raymond but

couldn't, for Raymond forced him to divulge it through a strange suspicion which possessed the lad after his mother's death." (The Dwarf paused. "What more was there to be said? Nothing." In another tone of voice he concluded.) "Now you can see the reason why Raymond has left us. He knows you love him and will not allow you to share what he calls his disgrace."

"But Mr. Brewer was innocent, you say?"

"Yes, yes, a thousand times yes; but how can we prove it—the court records stand as the human statement of the fact."

Marian was silent. She gazed helplessly at the odious bundle of papers in her hand. The tears came and then the cry of the heart:

"Oh, Mr. Wart, what are we to do?"

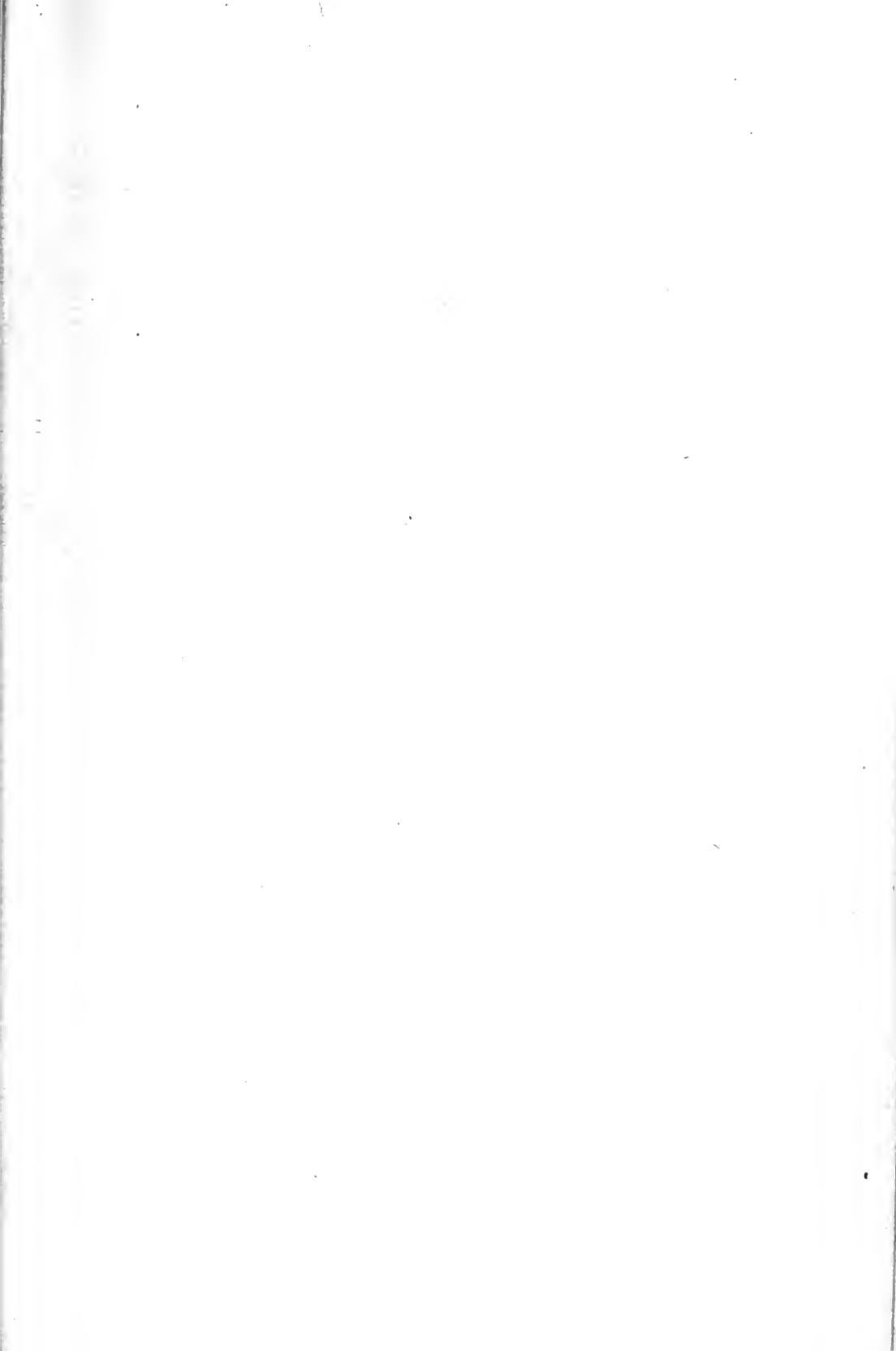
There was nothing that could be done. Raymond was already a good day's journey out at sea. Marian and the bookseller were like prisoners chained to the spot upon which they were. An effective step in any direction did not seem possible. The only plan promising any result which the two could hit upon was to address a letter to Raymond at Pittsburgh, in the care of Mr. Winter. Hope suggested that step, however, with little confidence of success. Mr. Wart felt that Raymond's return could not be purchased by the very coin he had refused to accept in going away. He would regard Marian's acquaintance with his secret merely as an extension to the comprehensibility of his action, not as justification for his return. The dwarf knew that. It was not knowledge of but participation in his past that he desired to remove from Marian, and his absence was essential to that. Nevertheless, Marian and the bookseller endeavored to make hope big for one another by many words. Possibility is of such infinite promise. There were so many ways Raymond might act besides the very one which seemed to both most probable. But by silence in this one direction it was possible to raise at least the appearance of comfort. The two concocted a letter to be sent to Raymond, an indefinite epistle upon all matters but one—he was to return. It might be that the reasons for his departure were convincing and imperative, but why not let those who were

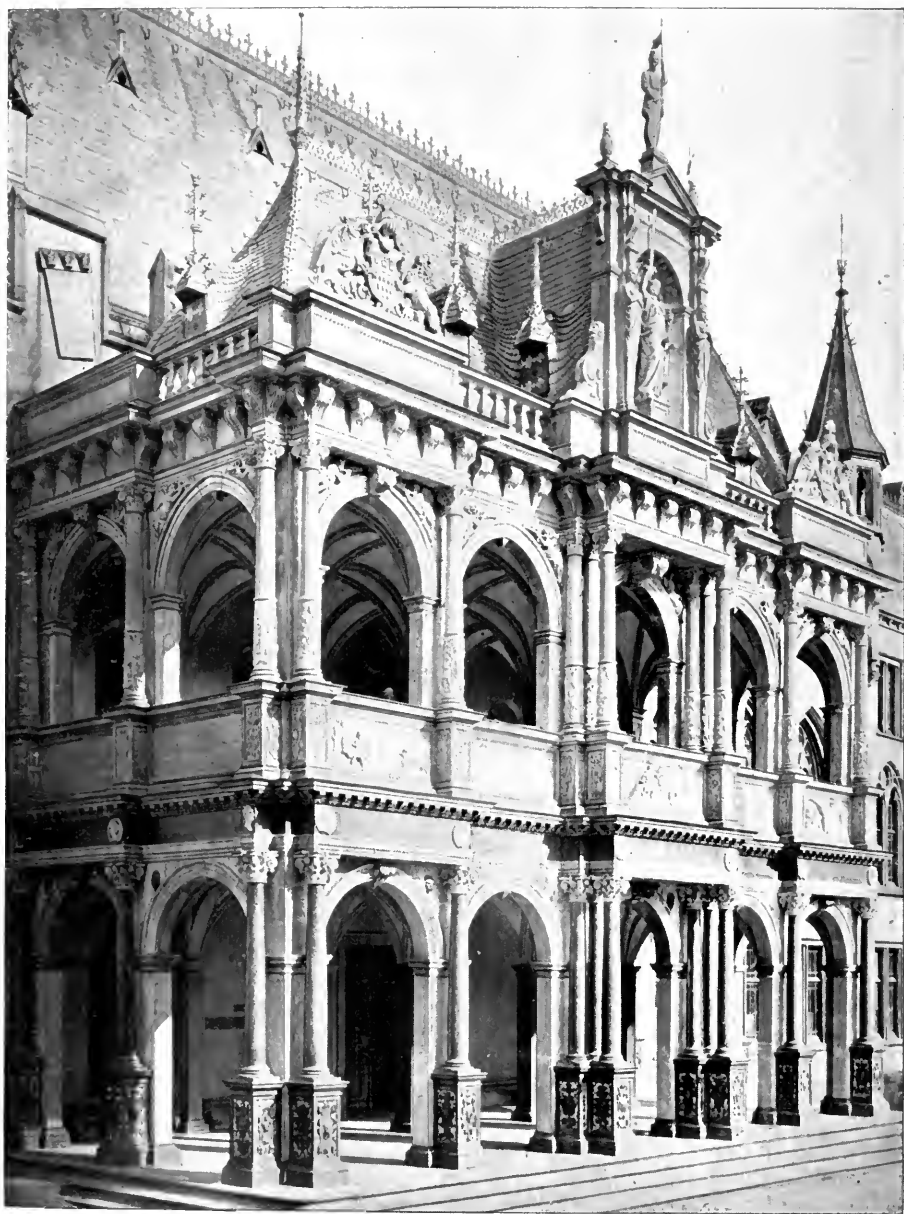
concerned in his action share in the formulation of his decision? After that there would be no one to appeal against the result. Would he let Mr. Fargus be judge of the proper course to be taken? The clergyman, who was in the Riviera for his health, would be in London again in a few weeks. "Return Raymond," the letter concluded, "and let us discuss this matter wisely."

The letter was posted and Marian and the bookseller returned as far as possible to their old ways with dim expectation at times that perhaps hope might be more prophetic than reason would allow it to be.

The first day of sorrow is always overwhelming because the eye has not yet measured the gloom. But no disaster quite overthrows our lives. The past seeks to re-establish itself, not only on the painful side but as a survival of old duties and ways, to which remain attached old satisfactions, or at least that negative condition, that indifferent sense of mere occupation which makes up by far the greater part of the substance of our lives. Old Mr. Wart returned to his book. "Ah, if that plan could be successfully completed might it not recall Raymond?" Marian returned to the schools, and touching humanity again, now upon a wider surface (as each new sorrow permits us to do) gained much by that diminution of self which results when we fix our daily life as she did in an atmosphere so much wider and tenser than that of the individual's life. Moreover, in the destruction of a woman's heart, her soul rises from the ashes, and Marian sought comfort now even more than ever in that "cloistral refuge"—her religion, which gave significance and value to life so tremendous that Faith reprimanded overestimate of or too great insistence upon any loss that was not directly Faith's.

To be continued.





ENTRANCE TO THE CITY HALL, COLOGNE.

The Architectural Record.

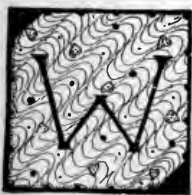
VOL. III.

OCTOBER-DECEMBER, 1893.

No. 2.

THE PROBLEM OF NATIONAL AMERICAN ARCHITECTURE.

I.—THE QUESTION STATED.



WHAT is to be the character of the style of artistic architectural design which sooner or later is to become established in the United

States as a national style? Of course this is a speculative question; but, to American architects and connoisseurs, it is not merely an extremely interesting one, it is a highly important one, and indeed a practical problem for daily consideration.

Americans may ask whether it is not for themselves to solve this problem, without any help from friends, however friendly, in the Old World—a world, moreover, which to many persons in these days seems somewhat effete in many ways, and confessedly, amongst the rest, not up to the mark in architecture. Nor is it at all unreasonable to take up such a position. The present writer, therefore, professing straightforwardly a respect for American enterprise which enables him in all sincerity to regard it with the utmost confidence, as perhaps the most vigorous force of its kind at present moving the human race, must ask leave to offer to American readers a few observations upon this topic with a considerable amount of unaffected hesitation and even diffidence.

That, by the mere everyday operation of the natural laws of intellect, there

must in due time be developed, in the peculiar circumstances of American progress, a particular variety of that artistic treatment of building which is one of the instincts of mankind, is a proposition that is scarcely open to debate. The question before us therefore is simply this: Considering what these peculiar circumstances are, and having regard to those natural laws, how far can we foresee the outcome? Is this American originality likely to be great or small; essential or not; good, bad, or indifferent; of speedy achievement or slow; permanent or evanescent?

II.—A PECULIAR CONTROVERSY IN ENGLAND.

It may be well to premise that there is at the present moment a very peculiar and somewhat acrimonious controversy agitating the architectural profession in England, or at any rate in London, the vital merits of which—if they be vital—may not be very clearly understood by Americans. Apart from those personal considerations and minor local issues for which we always have to make allowance in such conflicts, it would appear that certain classes of the more artistically-minded or romantic architects—mostly young men, of course, but not all—are very seriously disposed to think that the time has come when the artistic designers of building ought to cut themselves adrift from the commonplace men of business.

In other words, the working partnership hitherto existing between the architecture of "art" and the architecture of "practice" ought, they say, to be dissolved. It is not easy to discover how they propose to accomplish this, especially in the face of a decidedly Philistine public like the English; but we are bound to suppose at any rate that the leaders of the movement, honest enthusiasts of the studio as we know them to be, see their way to make themselves more useful in the capacity of specialistic artists attached to the building-work of the community than as merely expert administrators of that building-work in a general way. To put the case in another form, they would apparently prefer to be themselves occupied exclusively with the graces of building, or at least with the direction of such kinds of building only as are demonstratively æsthetic, leaving the merely utilitarian and unæsthetic work to be conducted by inartistic "surveyors." The "architect," they consequently affirm, is *an artist* pure and simple, and "architecture" is *art* alone.

To emphasize the distinction here involved, our remonstrants point to the existence of a state of things which may be acknowledged to be unsatisfactory in theory, namely, that a large proportion of the most prominent practitioners as "architects" by name throughout the country make their living out of such transactions chiefly as the valuation of house property for purchase, rental, or compensation, the assessment of repairs or dilapidations, the settlement of builders' accounts, the business of litigation, the official work of public inspectorships, and so on, transactions in relation to which, not only has the romantic element no place at all, but the artistic use of the pencil has presumably been lost if it was ever possessed, the "architect" having degenerated into nothing better than a general agent, the very respectable (and very prosperous) ally of the auctioneer and the lawyer.*

If this revolt should eventually result in any practical modification of the existing system of practice, the effect upon Architectural Art in England may be important; and it may indeed extend over the whole Anglo-Saxon world; but it must not be forgotten that the rapid advance of artistic education in the English profession may before long change the whole aspect of the case, and we cannot say in what direction.

III.—THE VIEWS OF THE PUBLIC.

It cannot be doubted, however, that the "man of affairs" thus complained of is precisely the kind of "architect" whose professional services the English public generally desire to have at their command. If he knows enough of the commonplace graces of design to make a building presentable—and it cannot be disputed that he generally does—so much the better; if he prefers to rely upon a qualified assistant, nobody cares; but the foremost of all considerations with the typical Englishman is that the building transaction, as a whole matter of business, shall be conducted in a proper way commercially, that is, with all the satisfaction attaching to good plan, economy of outlay, substantial building, and smooth sailing, with the addition, as regards the graces of appearance of just such a moderate amount of elegance as shall be palpably unostentatious and indeed a little reticent, and thus creditable to the good sense of the owner and the public. In a word, business is to be business throughout, and the artistic dressing, like all other kinds of dressing, must be kept within bounds. Of course there are certain classes of the community who interfere a little more with artistic considerations, but the general feeling is as we have here described it; and indeed is it not very much the same everywhere else—even in France, which is the happy hunting ground of the Arts? At all events, it cannot be hoped that in England this romantic quarrel will have the benefit of any large amount of public sympathy, and unquestionably it will be left to the architects to settle amongst themselves.

* We suppose it is hardly necessary to inform even our "lay readers" that there is nothing in American professional practice at all answering to this description of what prevails in England.—EDITOR.

IV.—THE ORIGIN OF THE QUARREL.

Any one will easily understand that the dreams of youth in matters artistic have always taken the form of an urgent demand for immediate and radical reform, and in estimating the value of the movement this consideration is not difficult to discount; but, after making all due allowances of such a nature, it certainly seems as if the force of the remonstrance remains. Norman-Shaw R. A., Bodley A. R. A., Jackson now A. R. A., and several other prominent leaders, are not young men, nor are such allies as William Morris and Walter Crane. The history of Art has always progressed slowly, and the student of architectural history will certainly feel no surprise if we suggest that the apparently sudden revolt of the artistic men under such direction is found to have been simmering in London for about half a century. The so-called "Queen Anne movement" (which is very closely identified with it, even in its more frivolous forms) can be distinctly traced back to a date anterior to the International Exhibition of 1851; and there can be no question that one of the most conspicuous results of the uninterrupted series of such industrial congresses running all over the world has been a gradual development, according to circumstances, of artistic instincts everywhere. Half a century, indeed, is but like a day in the march of architecture; the construction of a single edifice will sometimes occupy a longer time without being unduly protracted. Let us suppose, then, the quarrel of the architect-artist with the architect-surveyor to be the outcome really of this universal growth of artistic feeling; and let us conclude that it has taken this shape in London simply because London is at once the headquarters of the 1851 movement and the established seat of that Philistinism which has to be assailed and overthrown thereby. If this be so, then the attack which the "Art-Workers' Guild" has seen fit to make upon the "Institute of Architects" in London ceases to be a petulant storm in a tea cup, and becomes a grave historical incident, and charged, no doubt, with momentous

results for future evolution. It is not to be regarded as only whimsical Queen-Annism kicking up its heels; fashions come and fashions go, while Art runs on forever. Neither is it a mere assault by impatient youth upon indolent age; or by the outs upon the ins; or by the have-nots upon the haves. Such outbursts as these are commonplace and easily gauged; but there seems to be something much deeper in this, and, if the theory we have hinted at will hold water, it behooves America as well as England to see to it. Are we to understand, and if so, in what sense are we to take it, that Architectural Art has declared war against business?

The Socialist question appears to be getting mixed up with this, but that we need not discuss here. The doctrine that the working of natural law has gone hopelessly away in all human society is no novelty; nor is the suggestion at all to be wondered at that if Tom, Dick, and Harry had but been in the way at the beginning, things would have gone very much more to their mind.

V.—THE ANGLO-SAXON QUESTION.

The question of the future of architecture in America is of course not the same as that of the future of architecture in England, but nevertheless the two are nearly allied. What is so well known as Anglo-Saxon civilization is the motive power in both countries, yet, as regards the potentialities, it will probably be admitted everywhere that, however sturdy the maturity of the one nationality may be, the youth of the other is herculean. It is not necessary even to suppose the energies of England to be on the wane in order to appreciate the entirely novel conditions of American enterprise; and inasmuch as Architecture—well designated History in Stone—invariably tells the tale of social progress; in fact records it automatically, it goes without saying that the respective positions and attitudes of the great Building-Art in the old island and in the young continent a century hence will be very different indeed. Whether even by that time America will be able to boast of hav-

ing developed a national style it is not easy to say; but it does not seem so likely that England will.

VI.—HISTORICAL NATIONAL STYLES.

Now what is a national style? To keep to simple illustrations, Egypt may certainly be said to have evolved in the Pharaonic times a style so characteristically national that, when the long dead and buried vigor of the Nile people was resuscitated under the Ptolemaic Greeks, the self-same manner of design was revived with all efficiency. Ancient Hellas next achieved a national style unquestionably—one of the very jewels of the world's intellectual history, so majestic and serene. But had the Romans a national style? A question not easily answered. So far as Roman design is an acknowledged continuation of the Hellenic, the purist may reply in the negative; but so far as the Romans of the Empire provided the artistic material for rejuvenated Italy, and for all the European nations ever since, the practical architect must speak it in the affirmative. Let the reader judge for himself. Again, were there any national styles in mediæval Europe? Another question not easily answered. There was developed certainly, out of the very simple and crude Romanesque elements of the "Dark Ages," the well-known Catholic Ecclesiastical style, in which the idea of universal arcuation and small-stone-work was carried through a career of extraordinarily vigorous if frequently unpolished felicity; but we can scarcely speak of this in any one country as a national style, for, although no doubt there were local modes and mannerisms everywhere which possessed all the merits that local patriotism could wish for, yet the "style" was as cosmopolitan as the Roman.

Does modern France exhibit a national style? Surely not; the most delicious Neo-Grec of Paris is proud to be regarded as only the perfection of finesse in Cinquecentist Italian. Can philosophic Germany boast of having evolved a national style? No; scarcely even a Teutonic version of the Latin

French. And what of England? It is the fashion to suggest that the least said is here the soonest mended; but this is an airy blunder of newspaper writers never indorsed by foreign visitors; and it is enough to point to the English revived Mediæval as the only rival in the modern world to the French Classic. At the same time, although, like the kindred Germans, the English are quite unable to compete with the French in finesse, it cannot be denied that some extremely creditable work of the Italian mode—the "Modern European" mode, speaking historically—has been accomplished during the present century in all the important towns of the United Kingdom and its Dependencies, and this with quite as much quasi-national character in many cases as can be found elsewhere.

VII.—THE CHARACTER OF ENGLISH DESIGN.

That which stands for quasi-national style in modern English design, as distinguished from the continental European generally, may not be readily discovered or easily described. This is partly because of the large proportion of prosaic but successful men of business who have been permitted to perform the architectural design of even important buildings in the superficial commonplace way which in so Philistine or utilitarian a community is considered to be safe against the risk of failure. It is also partly due to the circumstance that the better English genius, or the best, seems to work most freely in the groove of faithful imitation, or the careful copying of accepted models. But at the same time it seems to be the rule that, when an English architect of genuine artistic power happens to have the necessity imposed upon him of attempting originality, the instinctive bent of his mind is towards masculine vigor—as compared, for instance, with the more feminine elegance which is so invariably prominent in the work of the French. This character of masculinity has been particularly noticeable in the works of those Gothicists who may claim to have attained the highest degree of popular

ity—such as Street, Burges, Pearson, and Brooks (not to mention others of less conspicuous celebrity); but the same characteristic may be discovered in the designs of Classic men, such as Elmes in St. George's Hall at Liverpool, Brodrick in the Town Hall at Leeds, and Penne-thorne in the London University (observe also many older works), and no less in some of the more recent hybrid productions by Norman Shaw, Waterhouse, and their followers.

It is an additional virtue in such English architecture that it never displays in its experimental muscularity any disposition to attempt "big things." It keeps within the limits of cautious moderation, whether in mass, in feature, or in detail, and especially in ornament; there is no desire to be huge, or vehement, or in any other way what would be called "rampageous." Ridicule is a force that appears always to be reckoned with, and the grave rebuke of sober common sense a thing to be dreaded.

There is no appealing from Philip in one condition to Philip in another. English enthusiasm in art never reaches such a point as to admit of being seriously trifled with, and an architect who is inclined to outrage the public sense once in the interest of nonsense knows very well that he may not get the chance of doing it again. No doubt this repression of ambition has its drawbacks; but at any rate it would seem to be clear that the beneficial effects of restraint are here at least of the greater moment.

We may therefore allow ourselves to hope that in another generation or two English architecture, if probably not more original than it is at present, may come to be notable in the artistic world for a special character of sober but sterling force which will be highly esteemed; indeed it is said that some of the fastidious and almost over-cultured French critics are already becoming possessed by a feeling of half-wondering admiration for much of the English work—the church work especially.

VIII.—THE QUEEN ANNE FASHION.

The so-called "Queen Anne style" which is the fashion of the day in England is of course not what the critical Frenchman admires. But neither does the Englishman admire it seriously. Being primarily a domestic manner, it possesses so far a certain homely charm no doubt; but in its present phase the majority of its examples are too frivolous for any kind of academical criticism, and too complacently devoid of conscientious finish (witness especially the mouldings) to promise anything like speedy progress. The ladies like it because it is "quaint" and "pretty;" but even they will not like it long, for, instead of quaint, they will presently call it queer, and instead of pretty, something else. It is not a mode to be recommended in America. It is in fact chiefly used by those who are content to shoot fashion as it flies. The pretension involved in the name assigned to it, that it is a historical English mode is almost a jest; the historical mode upon which it is based is confessedly Flemish Renaissance, and the best account to give of the English experiments—for they are no more—is to say that they are in reality efforts to escape from obsolete Secular Gothic to a kind of Classic by way of the hybrid picturesque of bric-a-brac. Side by side, however, with this episode, the proper Classic, the dignified Italian and French Renaissance, is steadily gaining ground, and here lies probably the real hope of English architecture for the twentieth century.

It thus would appear that the only measure of approximate nationality attaching to modern English architecture up to this time is displayed in the best of the Neo-Gothic church-work and in a few examples of the municipal Classic; to which we may add some of the rural domestic; and in all these alike what the studious critic will probably discover to constitute the distinctive charm is the same character of straightforward, modest, virile vigor. Nor is it a curious coincidence, but an evidence of the operation of natural law, that the same manly characteris-

tics in the transactions of life at large are precisely what the typical Anglo-Saxon all over the world at present most thoroughly admires and esteems; architecture, in this as in all else, is only telling the story of the passing day.

IX.—THE THREE INFLUENCES IN AMERICA.

If the foregoing observations sufficiently illustrate the practical meaning of national style in architectural art, we may now endeavor to discover what Americans are really doing.

America—meaning the United States of course—is a new Anglo-Saxon empire across the Atlantic. It certainly does not yield allegiance either to the Latinism of France or Italy, or to the pure Teutonism of Germany, or to any other racial influence whatever from the Old World. But it is by no means so Anglo-Saxon as to be English; it cannot even be properly described as Anglo-American. Obviously it would be idle to call it native, or in any sense American pure and simple. It is so far, in short, Cosmopolitan; and certainly to such an extent that its art of all kinds must be expected to accept a cosmopolitan element, and necessarily of the European type. At the same time it appears impossible to doubt that in due course its architecture especially may develop characteristics than can be regarded as indigenous to the soil in a greater degree than is observable in the local European modes: or let us say there is in the social prospects of the United States so much that is original, there is in the national mind so much that is novel to the world, that we may logically look for more originality in such a country in such a product as architecture than we have witnessed in any country in Europe since the great epoch of the fifteenth century.

In this view of the case there are three sources of inspiration at the command of the art on American soil, namely, the English or Anglo-Saxon, the Continental European or French, and the independent if not native American. We must not say in these

days of the New Philosophy that there are so many fields of precept and example from which American architects are left to choose at their pleasure, but that there are these three influences forced upon their minds; we may add that there are these three inheritances which they have to invest. It may be remarked, moreover, that no other nation in architectural history has ever possessed three such inheritances; and that perhaps no other nation has ever had quite so much in the way of combined ingenuity and moral courage wherewith to direct their investment.

In attempting to deal with these three influences it may be found most convenient for our purpose to take the last first, and to begin by looking carefully at those conditions attaching to American society which are the natural foundation of architectural experiment. Now it requires no argument whatever to lead the American reader to grasp the idea of how far the conditions under which he lives are unique. The vastness of territory, the perfect liberty of public opinion and absence of domination, the fraternity of intercourse and sense of equality, the unrestrainable activity of enterprise and hurry of universal commercial life, the recognition of seclusion from one-half of the world with its embarrassing traditions and of empire over the other divested of them—these and other kindred considerations cannot but produce in the general American mind, and none the less, perhaps all the more, in the mind of American architects, a buoyant independence of thought, which to say the least, ought to go a long way towards originality. In other words, it is for reasons like these that American originality in other matters has come to be one of the fixed ideas of the world, and it is not to be supposed that American architecture should fail to follow the rule. The instincts of the nation are primarily all original.

X.—AMERICAN ENTERPRISE.

But there is more than originality in the American intelligence; the national spirit of enterprise goes farther. There

is not only the desire for novelty, and indeed the determination to attain it; there is a boldness of adventure, which, although it may sometimes encourage rashness, haste and extravagance, is entirely subversive of that overcautious timidity which in the Old World so frequently clogs the wings of genius. One very remarkable manifestation of this spirit of audacity consists in the already quoted leaning of American enterprise of the higher order towards "big things." Four thousand years ago, and sometimes even later, a similar inclination only indicated that civilization was in its grand barbaric youth; but this is by no means the case in America, and a different explanation must be found. Perhaps the reason is no more than this:—that, however modest the most modest of individual Americans may be, he cannot but perceive that aggregate America is in more ways than one the indisputably biggest thing at present rampant amongst mankind. In the particular subject of architecture, this seems quite sufficient to account, not only for the "elevator buildings" of New York and Chicago, but for even more astonishing endeavors in the direction of magnitude that may be developed in the future. Unquestionably "the mind's the stature of the man," and, if an American is pleased to stand on tiptoe, Eiffel Towers and Forth Bridges open to his enterprise so wide a door for ambitious building that he may surely take leave to say "the end is not yet."

XI.—ARTISTIC MATERIAL.

Although, however, the national American mind, by reason of such free and expansive associations, may be favorably circumstanced for the evolution of freedom and expansiveness of conception in relation to building, and to its artistic element amongst the rest; yet it has to be borne in mind that the old philosophical maxim "*ex nihilo nihil fit*" has always applied to the artistic element with special force. Whatever vagueness of language and sentimentality of thought we may be accustomed to tolerate in speaking and even thinking of the functions of the imag-

ination and the gift of genius, nothing is more palpably and experimentally certain than the axiom of art that nothing comes from nothing, that imagination without material is futile, genius without knowledge useless, fancy without fact to work upon not even the substance of a dream. It follows, therefore, that the very independence of America in its dissociation from European traditions must obviously carry with it a deficiency in that possession of the artistic material of the Old World's inheritance upon which, in the nature of things, designers must rely for suggestion or inspiration. Copying literally the old work is not the point that is here in question. The designer may avoid this as demonstratively as he pleases; but how is he to design at all without understanding, and where is he to get understanding except by study, and what is he to study but the successes and failures of predecessors? When the present writer visited America as a youth, now many years ago, he happened to be naively explaining with reference to a design of his own, that it was Greek. "Why Greek?" replied a scoffing native, and would not wait for an answer. The incident impressed itself upon his memory as a permanent lesson in criticism. Why Greek, indeed, or Roman, or Romanesque, or Gothic, or Renaissance, or anything else but just American? Quite so; but even to an American "*ex nihilo nihil fit*," and, to say the very least, the absolutely only way in which he can become an artistic architect worthy of his generation is to learn all that he can from the architecture of past times and then do his best to better it. In this respect, therefore, he doubtless labors under a certain disadvantage—he lives such a long way off from school.

Fortunately, however, there come to his aid nowadays the multitudinous pictures of the photographers and the abundant illustrations of the professional library and periodical press. Of course he may avail himself also of the facilities of travel; but even the stay-at-home can learn almost as much in one way, and a great deal more in another, from those excellent representa-

tions. However he may miss the power of influence, they at least can scarcely fail, if thoroughly studied, to saturate his mind with the spirit of the art.

XII.—THE GENIUS LOCI.

But, as it must be admitted that the influence of local associations—the *genius loci*—is unquestionably an important factor in the inception and advance of any form of national art; here a new country must necessarily suffer another disadvantage. In fact, in the case of America there is no doubt a not inconsiderable amount of actual depression and discouragement occasioned in many enthusiastic minds by that rawness of environment which on every hand marks the unexampled rush with which the bulk of the vast territory is still being reclaimed from a primitive condition. In the Old World, the relics of past history throw a glamour over the business of current time, which, although it may not bear too close a scrutiny, and may sometimes indeed in no small degree dazzle and bewilder the eye, is nevertheless sufficient at any moment to arouse the emotions of patriotism. Very shabby princes and most unprofitable prelates serve as well as the best for figures to give character to the pageantry of a nation's past; and an ancient community cherishes the memory of eminence even in its tyrants and knaves because they are its very own. On just the same grounds in the matter of art, whether it be a venerable cathedral in which heroes and saints lie buried, or a cruel dungeon whose walls are inscribed with the heartbreakings of despair, even the uncomfortable mansion of a line of petty squires all gone to decay or a mere tavern by the road-side where the muddy ale of an obliterated age was served to passing peasants still more utterly obliterated, there is always something about a building of the olden time which seems sacred in its way, whose imperfections and even absurdities we prefer to ignore, and whose merits, when only due to the picturesqueness of ruin or the associations of fancy, acquire the character of national style. It is well known at a hundred of the

show places of "the old country" that, of all visitors who approach them with reverence, a party of Americans will be the most affectionately reverential; so that the power of the past is by no means unknown to the American imagination; but when the question is how far the sympathies of the artist have the advantage on American ground of the mysterious mystifications of history, or how far the absence of such mystifications tends to weaken these sympathies, it will readily be acknowledged that the country is altogether too large and too new. American architecture, therefore, must perforce dispense with whatever help would be derived from this interesting patriotism; the influences of antiquity are wanting, and those of local surroundings are often worse than wanting.

It must also be observed that, owing to the remoteness of those European examples, both ancient and modern, from which alone American architecture can derive the standard scholastic inspiration, and of that direct European influence upon which for a long time to come it must, if unconsciously, so necessarily rely, the establishment of a national mode becomes all the more difficult. Look, for instance, at Germany. Not only at the present moment, but for ages past, as we may very safely assert, the German intellect has been in a condition of strained relations towards the French; indeed the efforts of German artists not so long ago to create an independent Teutonic school have been of the highest historical significance. But it is equally notable that, after all, German architecture of any authentic and superior kind has been inevitably but a phase of French; and if we could trust ourselves to speculate upon the question what would have happened to the art in Germany at any modern date if France with all her artistic traditions and all her current artistic works had been suddenly extinguished, it would be difficult to show how a relapse into something like barbarism could have been avoided. Without relying too much, however, upon such an illustration, it is sufficient for us to recognize that here again America, with all her ingenuity and enter-

prise, has another obstacle to encounter and to overcome.

XIII.—THE INFLUENCE OF AN ARISTOCRACY: NOW OBSOLETE.

Whether still another difficulty affecting the development of American architecture of the highest class may arise out of the peculiarly commercial republicanism of the people is again a most interesting question. That the existence of an influential or even dominant aristocracy of wealth, leisure, and culture, has hitherto seemed to be essentially necessary to the initiation and support of advanced art is a doctrine which is generally recognized—at any rate up to a certain point, the exceptions being not such as to affect our argument. In other words, in a community which is composed exclusively of people of moderate means and active business, content with a modest education and moderate refinement—the latest ideal, by the way, of political happiness—we cannot expect to find purchasers for costly works of art, and especially promoters of ambitious building; but grant the admixture of a so-called superior order, possessed of hereditary riches, hereditary ease, and hereditary or acquired fastidiousness (it is a common saying in England that it takes three generations to produce a “gentleman,”) and then the encouragement of art, strictly as a luxury, appears to come directly into view; and it may perhaps be laid down as a rule that one of the very chief functions of such an aristocracy, as a counterbalance to its many disadvantages, is the cultivation, if only for personal gratification, of all the enjoyments of taste. But, on the other hand, there has come into operation in the modern world, and more and more in very recent times, a totally different principle, namely the encouragement of art by the people at large in public combination, and by men of the people individually as wealthy representatives of the people—plutocrats so called, and not aristocrats in any way. It is unnecessary to point out to Americans that this principle is especially theirs; and it is equally needless to say as

matter of history that for a good many centuries past the achievements of the commonalties in Europe as patrons of the arts have, both in quantity and in quality, fully equaled all that has ever been done by aristocracies.

The artistic productions of the Middle Ages, although not entirely to be relied upon, furnish an excellent and convenient illustration here. The encouragement of art in those days was of course almost entirely in the hands of “the church,” the nobles being chiefly ignorant fighting men; and no doubt the religious orders in the person of their best representatives, even when these had risen from the ranks, were aristocratic enough, both in personal bearing and in the refined ascendancy belonging to education and the command of wealth. But there was growing up all the while, in one country after another, from semi-oriental Venice in the tenth century to the whole of Western Europe in the fifteenth, so potent a manifestation of purely popular and mercantile culture, quite as independent of the priest as of the baron and the king, that the relics of its work are at this moment of far more value to the connoisseur and the artist than all that remains of the industrial treasures which contributed to the pleasure and glory of the higher orders. When at length the light of the Renaissance—the revival of the ancient arts and literature of the Romans—spread its genial influence over Europe, although princes and learned abbots no doubt had their share in the joyous movement, all the world knows how the merchants found the money and their sturdy guilds the enterprise, asking nothing from either king or bishop but to be let alone.

Since those stirring times, still “westward the tide of empire has held its way,” till the restless Italian commonwealths have been long forgotten, the free cities of the old Germans have wasted away, Spain has disappeared, London and Paris are but cosmopolitan centres, the “American Markets” occupy a permanent column in the newspapers of all Europe, and bewildered civilization, halting at California, wonders where it can go next; and all this

—no one in his senses would think of denying it—is emphatically the progress of the People.

Architecture again, automatic register of the wayfaring of the world, has never failed to leave a faithful record of the doings of those ages, and it is perfectly true philosophy to say that when the culture of the people, in such steady and triumphant march, has now reached America as it has done, we must look for American art to spring up and flourish strictly in that form which applies to the sovereignty of the people alone. It is not necessary to disparage the agency of aristocracies and royalties; or to deny to the "leisured classes" of Europe the enjoyment of their refined tastes, and indeed their acknowledged duties as patrons, promoters and purchasers; but, just as the fact is well understood in London that the choice pictures of the Royal Academy find their way, not to the "historic homes" of the nobility now, but to the private galleries of Liverpool and Manchester and the straitened dining-rooms of Kensington, and not unfrequently to the hallways of New York, Chicago, and San Francisco, so also may Architecture, true to its rule, be expected to flourish in due time and bear abundant fruit amongst the multitudinous communities of the great American people, under the control of republican municipalities in place of patrician families, and the patronage of merchants.

XIV.—THE INFLUENCE OF RELIGION.

Another important question may now be stated. As the influence of religion upon art, and most notably on architecture, has been, throughout all time, and in all quarters of the world, the most conspicuous and indefatigable of all agencies, let us inquire how far it may be expected to manifest itself in America, and especially as affecting the development of a national style. It may be affirmed at once that in this respect the conditions of American society are peculiar; and at the first glance we may be apt to think that the American nation as a whole must necessarily fail to enjoy the full

benefit of religious enterprise in the encouragement of artistic building. Historically it is perfectly clear that from the Pharaonic temples and the Parthenon of Athens to the St. Paul's of London and the new Church of the Sacred Heart of Paris, the utmost magnificence of the architecture of the time and place has invariably been expended with enthusiasm upon the edifices dedicated to divine worship. The reason for this scarcely needs to be suggested; but it may with certainty be affirmed that a dominant national form of religious organization has in every instance existed hitherto as the vehicle by which the wealth and energy of the community at large have been most liberally directed to architectural magnificence. In other words, the great temples of antiquity, the cathedrals of the Middle Ages, and the monumental churches of modern times, have all alike been built under the orders of a national priesthood, partly for the glory of the Divinity, and (if it may be confessed) partly for the satisfaction of the divines as a public assertion of the spiritual authority which they represent and exercise.

Now it is not at all likely that what is known in Europe as "clerical influence" will ever become an organized element in American affairs. The "toleration of nonconformity" which is still considered a special virtue in the State Churches of the Old World is unknown, almost "unthinkable," in the New, where national religion is unlimited sectarianism on principle and not merely unlimited but harmonious—this again involving an idea almost unthinkable in Europe. Consequently, in the entire absence of a State Church, it is not to be expected that the American people will ever do more in the way of ecclesiastical architecture than the building of denominational places of worship, distinguishable by denominational varieties of form and expression, and naturally rivaling each other in cost and display, but certainly in no possible instance attempting individually anything like that assertion of sacerdotal ascendancy out of which the extreme majesty of temple-building has been developed in the past.

In England at the present day, although they are not building new cathedrals—that of Truro being a local necessity of little account, and the somewhat too ostentatious project for Liverpool having broken down—the enormous aggregate expenditure of money and enthusiasm all over the land in the erection of new parish churches and the renovation of the old ones constitutes a most imposing illustration of the influence of the established religion over the people at large; and once more it may be remarked that out of this great movement there has been produced the nearest approach to a nationally characteristic architectural style that modern Europe has yet seen, except the brilliant Neo-Grec of the French. In America the work of church-building seems to proceed as regards results, upon a similar principle to the English (especially if we include the chapels of the dissenters and the presbyterian kirks of Scotland); that is to say, the people, by collecting voluntary contributions, cover the whole country with well-devised edifices for local worship which in the total make a display of artistic grace to correspond exactly with the popular taste. But, just as in England no one expects ever to see sacerdotal splendor reasserting itself under the Bishops in emulation of the magnificence attained by the ancient Church in the Ages of Faith, so in America it is not to be imagined that even a syndicate of the most bewildered millionaires in search of a new sensation would venture to face the comments of the people by attempting to “run” a national rival to the Temple of Diana at Ephesus or the Basilica of St. Peter at Rome.

XV.—THE ACADEMICAL COPARTNERY OF ARTS.

An influence which must not be overlooked as a factor in modern architectural history is that which has arisen out of the academical association of Architecture with the arts of Painting and Sculpture. In England we have seen for some time back that this copartnership is of an artificial and indeed arbitrary nature. We

know but too well that, although architects not infrequently possess much more than a merely critical acquaintance with painting and sculpture, particularly as decorative arts of the highest order for their own use, painters and sculptors, in England at any rate, have no knowledge whatever, in ninety-nine cases out of a hundred, of even the simplest elements of architectural design. We know also that when the occasional election of an architect for the supreme honor of admission into the Royal Academy is still coolly taken in hand by an assembly of painters, with never a thought of consulting the professional architectural world at large, or the chartered professional guild with its hundreds of accomplished members at hand in London alone, human nature cannot help wincing at the anomaly. In America such an arrangement is not at all likely ever to come into existence, but it may interest American architects to consider how it has acquired a footing in England. It rests of course on a traditional basis. When the “Revival of Arts and Letters” took place in Italy in the fifteenth and sixteenth centuries, it was a perfectly natural thing to set about establishing “Academies of Art,” that is to say, scholarly guilds of practical artists of the new classical order. In so doing it was equally natural to conclude that, although the Art of antiquity and the Literature of antiquity must obviously be separately recognized, no sub-division of either of these two great sections of the antique need be introduced. Thus the idea came to be established of a sort of trinity in unity of Art in the form of “Painting, Sculpture, and Architecture,” according to the antique; all other departments of design, from goldsmith’s work to mosaic allowing themselves to be comprehended in one or other of these inseparable divisions according to circumstances. It was on this basis that, as everybody knows, it was common for the great masters of the Renaissance in Italy to work indiscriminately, not only on painting and sculpture of the highest merit, but on any species of decorative or indus-

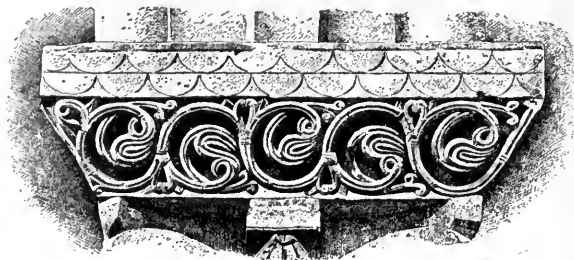
trial art that offered, and also on practical architectural design of the most pretentious character. (And, by the way, if their architecture therefore drifted more and more into superficiality or mere surface treatment, we cannot wonder at it; although, on the other hand, how the same men were employed, as they sometimes were, on such very different work as military engineering, it is not so easy to understand.) In this way, then, it was that the scheme of Academical Classical Art, or the academical recognition of the three grand Arts consecrated as an indivisible poetic galaxy came to be permanently established as a modern European formula. Accordingly, when King George the Third was advised to create a "Royal Academy of Arts" for England, this scheme was taken as it stood and accepted without question; and, the somehow magical number of forty members being determined upon, four of these were appointed to be architects, and four sculptors, leaving thirty-two places for the painters. Long after that time it was not so easy to find highly accomplished architectural practitioners as it has been lately; but at the present day it can scarcely be denied that the elevation of so small a handful of these (there are usually six in all, including the Associates) as artistic designers *par excellence* selected by painters—and it is notorious that the painters too often regard both their architects and

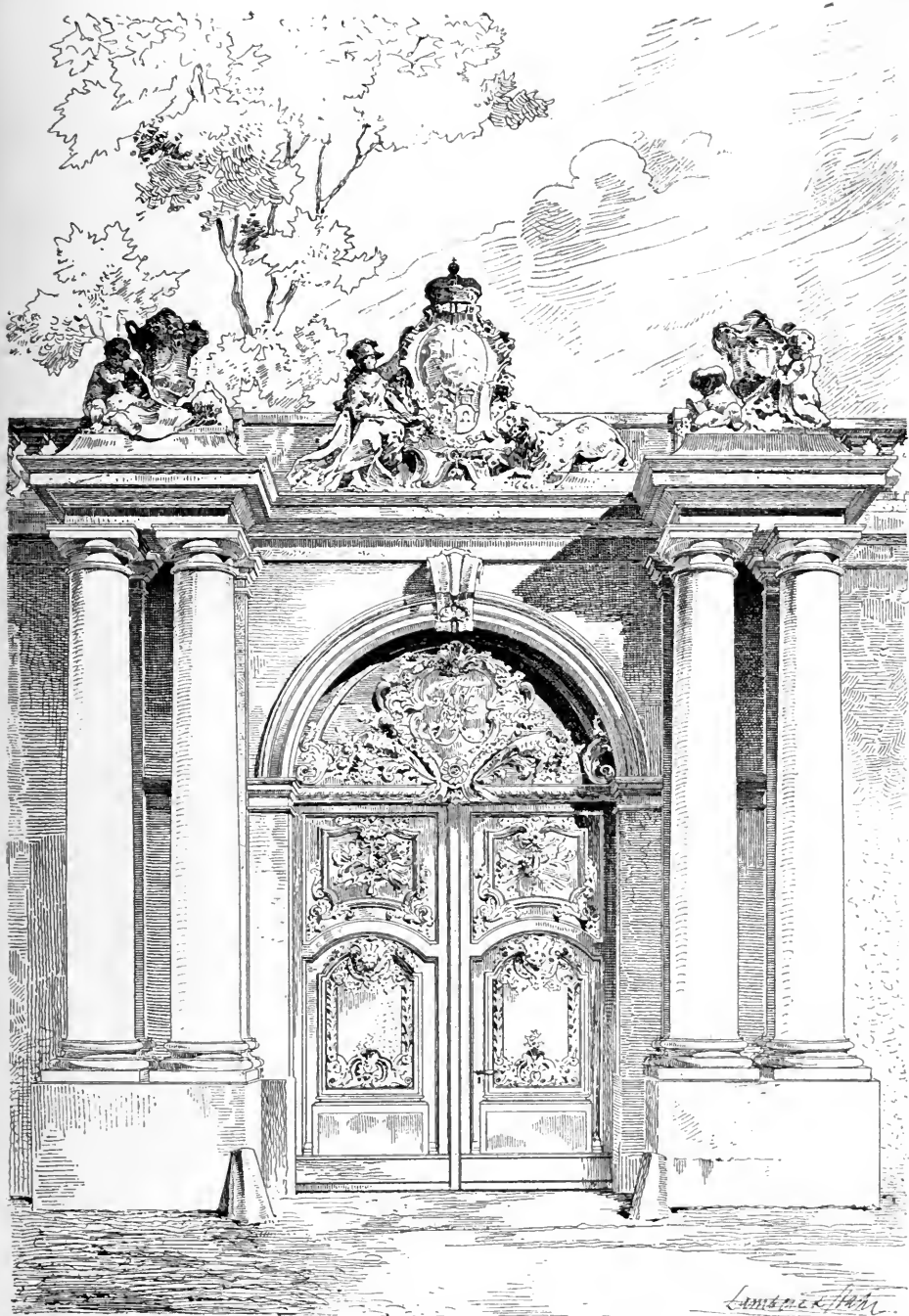
their sculptors only as inconvenient if not objectionable colleagues—is a transaction that must remind us of Dickens's "Circumlocution Office" when performing the amiable task of "how Not to do it." At any rate, we may repeat that there is no likelihood of American architects allowing themselves to be embarrassed by such obsolete traditions; and they may be further encouraged to assert the dignity of their own art if it be candidly acknowledged that the only understood reason why English architects submit to the continuance of the academical copartnery is that they thus retain a right to send their drawings to the annual exhibitions, as a sort of advertisement of very doubtful value.

XVI.—CONTINUATION OF THE INQUIRY.

We may now consider that we have completed our reflections upon the first part of the problem before us, dealing with some of the chief preparatory influences, positive and negative, pertaining to those peculiar conditions of the New World which must affect the artistic style of its building. In another communication we may expect to conclude our inquiry by treating of the material of artistic inheritance which must necessarily be derived from the experiments of the Old World, but which it is open to the New to assimilate in whatever way may seem right to its own intelligence.

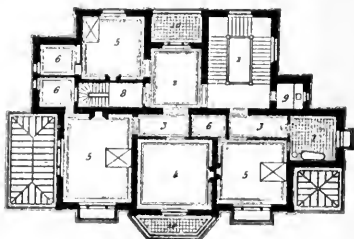
Robert Kerr, F. R. I. B. A.; of Kings College, London.





DOORWAY IN FRANKFORT, GERMANY.

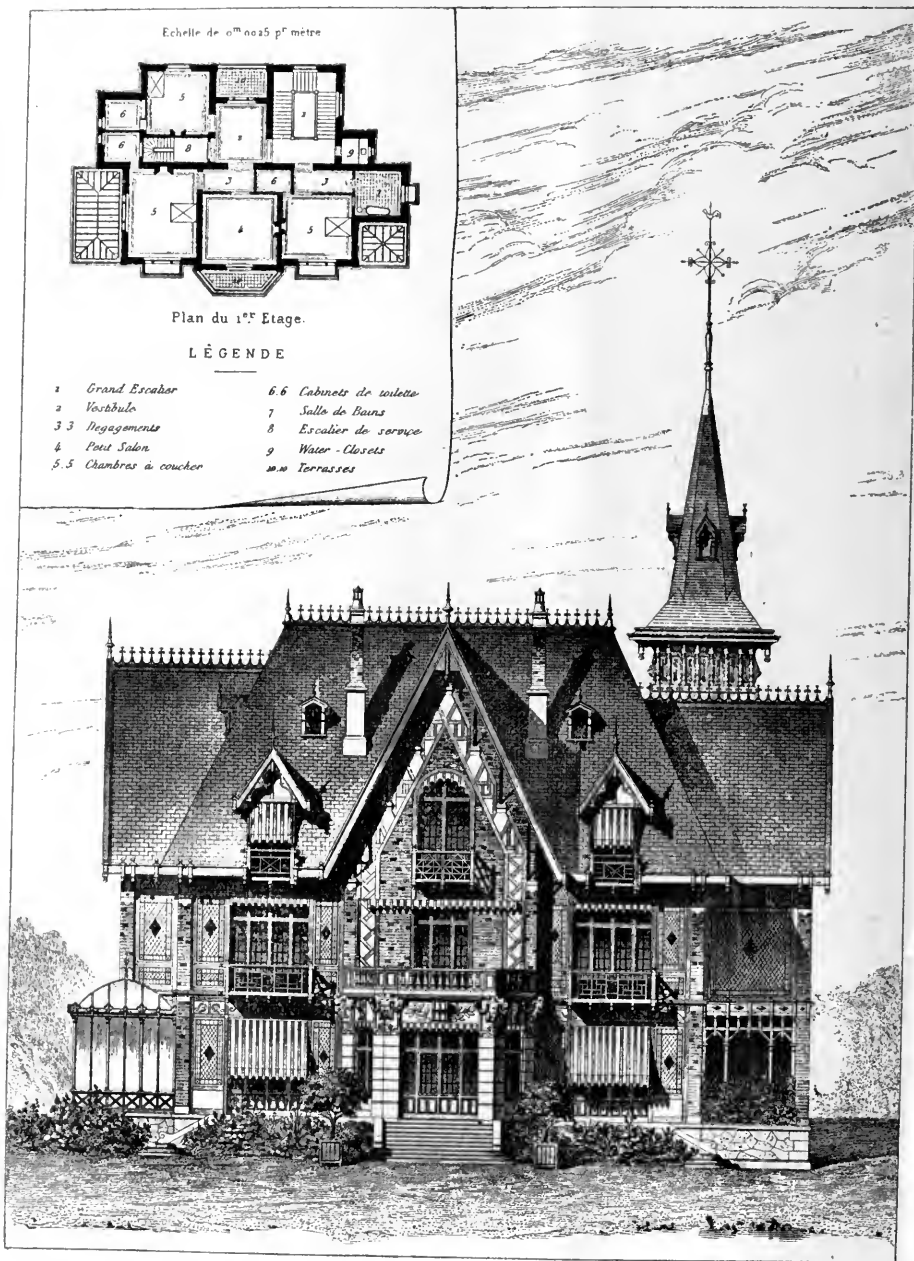
Echelle de 0^m au 25 p^r metre



Plan du 1^{er} Etage.

LÉGENDE

- | | | | |
|-----|--------------------|-------|----------------------|
| 1 | Grand Escalier | 6.6 | Cabinets de toilette |
| 2 | Vestibule | 7 | Salle de Bains |
| 3.3 | Loggions | 8 | Escalier de service |
| 4 | Parl. Salon | 9 | Water - Closets |
| 5.5 | Chambres à coucher | 10.10 | Terrasses |



St, Germain-en-Laye, France.

CHATEAU SAINT-LEGER,

Léon Carle, Architect.



St. Germain-en-Laye, France.

DINING-ROOM IN CHATEAU SAINT-LEGER.

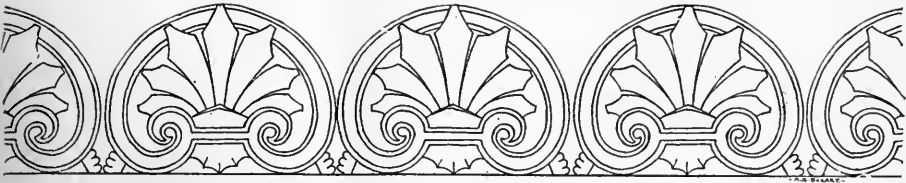
Léon Carle, Architect.



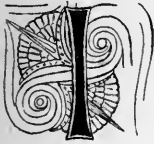
Angers, France.

STAIRCASE, HOTEL DES POSTES.

J. Boussard, Architect.



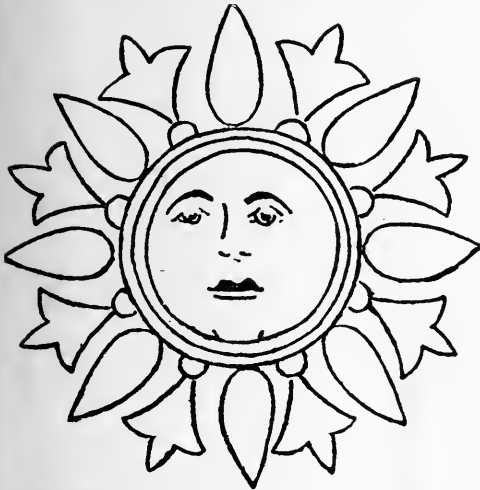
THE LOTIFORM ORIGIN OF THE IONIC CAPITAL.*



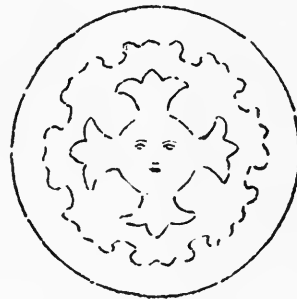
HAVE in my second Paper called attention to a wide-spread diffusion of modifications of the classic ornamental system originally derived from Egypt, which diffusion cannot have been known to some of my reviewers and critics. Had this diffusion been known to certain reviewers they could not have attributed to an enthusiasm for the lotus, positions re-

foil can be verified for ancient American art, but as it is positively not a case for argument whether the lotus trefoil can be verified for the Buddhist derivative art of Siberia and of the Amoor valley, which goes back to classic influences in India, and as evidences of Buddhist influence on ancient America have been cited by a number of scholars, there is nothing extravagant, ridiculous or amusing in the position taken regarding the lotus trefoil and cognate patterns in ancient American art.

By Buddhist influences we are not to understand direct influences of the Buddhists themselves, but simply re-



Sun-disk or solar face, surrounded by lotus trefoils and lotus buds. Detail of a Pompeiian fresco from the temple of Isis, Naples Museum. From author's sketch. Compare the following illustration from Mexico.



Sun-disk or solar face, surrounded by lotus trefoils. Ancient Mexican stone carving, pub. by Dupaix (a similar Mexican stone in the Berlin Museum). Compare preceding illustration.

sulting simply from a knowledge of general history and of the history of pattern ornament in which the said critics appear to be deficient. It is, for instance, undoubtedly a matter for argument whether cases of the lotus tre-

foil transmissions of Asiatic and Siberian patterns originally derived from Buddhist sources, just as we speak of Greek influences on modern art. Such diffusion of patterns must have been, however, the result of commerce and culture influences resulting from the spread of a higher Asiatic civilization to tribes and races of a lower stage of

* Being the third Paper of a series on the evolution of classic ornament from the Egyptian lotus. See the April Number—"Are Conventional Patterns Spontaneously Generated?" and October Number, 1892—"The Grammar of the Lotus. An Answer to Critics."

culture. I have referred in my last Essay to the proven presence of Chinese Buddhist priests in ancient America as illustration of the wide diffusion of direct Buddhist influence, but the indirectly transmitted influences are the most important because the most far-reaching.

Before taking up my demonstration in chief, to which my two Papers, so far, have been preparatory, I wish, therefore, to point out that the history of an ornamental system is one thing and that its origin is another. And yet as far as opposition to my views is concerned I have found it mainly on points really relating less to theories about the lotus than to the matter of fact subsequent history of the classic ornamental system, the points which are the easiest to prove and illustrate and which presuppose only a wide knowledge of history on the part of the reader, a wider knowledge, it is true, than one has a right to ask from the general reader, but not a wider knowledge than one has a right to ask from a critic. In other words, the later diffusion of the classic patterns has created a presumption against my case, which should be really in its favor. For whatever shows the force of habit and the absence of independent initiative favors my views.

In brief, then, a critic of the "Lotus Grammar" must possess a knowledge of the ornamental systems of the Renaissance, Gothic, Romanesque and Byzantine styles, of the Mohammedan Arab and Buddhist Asiatic systems, and of the system of the Malay Archipelago, and a knowledge of the historic continuity in all these systems of certain definite patterns which I am discussing and which I assert to have penetrated to ancient America—certainly by way of the Amoor valley and Siberia and the northwest American coast, possibly also by Phenician voyages. In default of such knowledge I would respectfully request my critic to hold his peace, and to try to learn something from me. My "hobby" is not so much as the *New York Times* supposes, "the detection of the lotus motive in many other decorations besides that of Egypt." My hobby is rather a belief

in the continuity of the history of civilization, a belief that the history of bronze and the arts of metal, of the alphabet, and of one definite system of patterns all point to one original historic centre. I believe that the Age of Stone has been displaced by the Age of Bronze and of letters by one single culture, which carried certain patterns with it, and that conversely the history or remote influences of this culture (in forms however remote) may be traced wherever the said patterns are found. This last is the proposition which interests me most, because I believe it to be a clue in some of the most difficult and least trodden paths of history, those especially which relate to influences of the Asiatic Continent on Ancient America. It is one thing to assert that the meander pattern of China and of Ancient America came from Buddhist art and originally from classic influences on India, and it is another thing to assert that the meander is originally a spiral scroll treated in straight lines which was derived in *Egypt* from a lotus spiral. It is a very cheap way of throwing ridicule on these assertions to confuse them.

I have also briefly indicated and briefly illustrated in my second Paper an important point regarding the evolution of patterns in the ornamental systems of the Pacific Islands and in other systems of barbaric or primitive art, viz. that many schematic and apparently geometric forms are definitely known to be conventional designs derived from animal or human forms. The case of the staff and crescent as evolved from the human figure or Pacific paddles is an instance of a primitive evolution within the limits of native primitive art.* The case of the ultimate degradation of the head of Philip of Macedon, copied from a Macedonian Greek coin, into a cross on the coins of the ancient Britons who had borrowed the original design is an instance of the transformation: which the art forms of a developed culture may experience when they are transmitted to a barbaric or primitive culture.*

— — —
* See April Number.

The arrangements and classifications of the Pitt-Rivers Museum at Oxford have been made with special attention to this subject. During my brief contact with Mr. Henry Balfour, its Curator (in September, 1892), he was good enough to show me a number of cases parallel to those mentioned, many of which he has subsequently published.* I shall be strictly within the circle of ideas of recent anthropologic science when I say that an imitative origin of some kind is to be assumed in general for primitive patterns, as opposed to the theory of an off-hand manufacture of geometric design. One class of instances would be illustrated by the arrangement of the Pitt-Rivers Collection, showing "how the string-work used for carrying gourd water-vessels is in the Sandwich Islands frequently imitated in color upon the surface of gourds to which the string-work is no longer added." It is probable that the use of different colors in the fabrics of woven textiles and basket-work may be a habit of primitive ornament and that the simple diaper patterns resulting would come under the head of decorative instinct without reference to imitation. Such diapers, copying the interlaced pleating of the twine which binds the stone axe to the wooden handle, have been occasionally imitated in wood carving, as seen on the ceremonial axe handles of the Harvey Islands. On the other hand, it may be confidently asserted that the phenomena of fetich worship and of a belief in magic are the original basis of all pictorial or formative art where human, animal or vegetable life are concerned, and consequently of the patterns thence derived. It is a fact, for instance, that even the simplest line on the commonest piece of Zuni pottery has in our own times a magic significance for the maker and decorator. Even a break in a line of color at the neck is supposed to affect the "life" of the vase—a fact obtained from Dr. J. Walter Fewkes, of the Hemenway Zuni Expeditions.

Lieutenant Frank Cushing, our great-

est authority on the Zunis, tells me that the patterns which they borrow from foreign ware are supposed to endow their own pottery with the virtues of the foreign *material and manufacture*, and that their use of borrowed patterns has this purpose.

The point has thus been indicated in my two preceding Papers that primitive pictures and carved representations of natural forms have generally a magical significance and importance for the makers. Plants, animals and inanimate things are alike objects of reverence to primitive man, because endowed by him with faculties and powers similar to his own, or others of more mysterious character. The pictures and images of these things are conceived as magical reproductions of the actual object and endowed with similar powers. For the savage the picture or carving of a given animal upon his weapon enables him or assists him to capture or kill another given animal which is the natural prey of the former. The picture of a horse on a piece of paper thrown over a cliff of the Himalaya Mountains is an assistance to the belated traveler whose friends are awaiting him, etc. In the case of fetich worship the picture or image is also the magical reproduction of the shape or residence (abiding place) and powers of the god.* So far then we are standing on ground which is familiar to anthropologists.

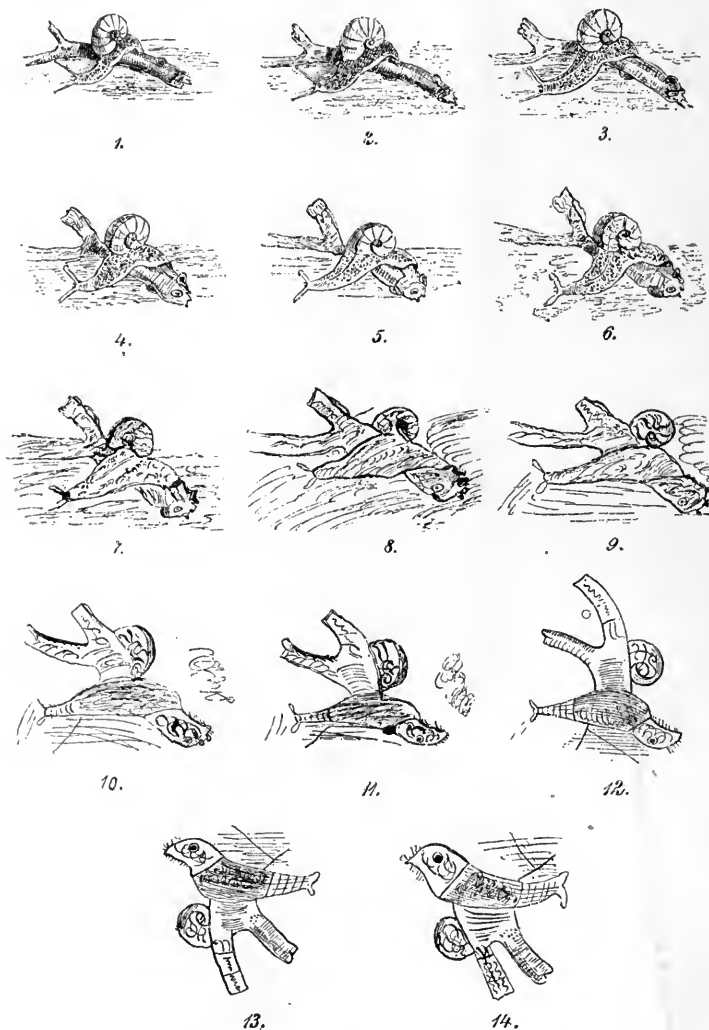
In all these instances where the picture or carving is a talisman it is presumed to be a self-existent and independent animated object, and consequently comes to be independent of a direct imitation of the form in nature which first suggested it. As soon as the picture or carving itself becomes the object of imitation, gradual departures from the original are inevitable, and the ultimate result is a schematic design. Contributory to this result is the effort of the designer to save trouble, to economize effort or material, and also his effort to vary the design and produce something new ac-

*"The Evolution of Decorative Art," by Henry Balfour, M. A., F. Z. S. Percival & Co., London, 1893.

*Frazer's "Golden Bough" is the most remarkable recent summary of facts on this head.

according to his own independent decorative tendencies. The mere inability of primitive or barbaric art, or even of civilized man, to make an exact free-hand copy of anything is a most potent cause of transformation. Mr. Henry

reproduced this series of transformations, together with his own account of the manner in which they were obtained. . . . "I first made a rough sketch of some object which could easily be recognized. Then I



Decorative evolution of a bird picture from a snail picture. Actual experimental test by Mr. Henry Balfour, of the Pitt-Rivers Museum, Oxford.

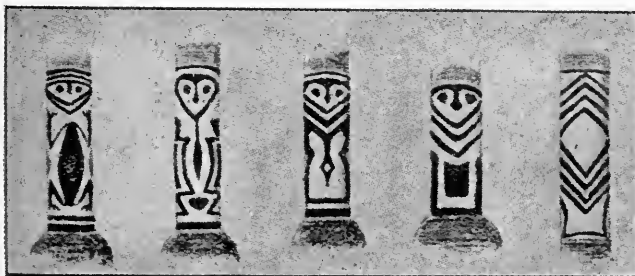
Balfour has proven in his work, just quoted, that even in the successive copies by civilized Englishmen of the nineteenth century, a snail on a twig may be transformed into a bird within the limits of fourteen removes. With his permission I have

procured a number of pieces of paper of the same size as that on which the sketch was made. Next I enlisted the aid of a number of people who, while having some notion of copying design, were not by any means skilled in the art; this in order not to make the series

unnecessarily long, and in order to adhere to a certain extent to the condition of primitive copying; to this end also the copies were made with a pen and not with pencil, as the latter, with its attendant possibilities of rubbing out, would have rendered greater accuracy possible. To the first, A, I gave my sketch, of which he made as accurate a copy as he was able on one of the slips of paper. I then withdrew my original, and set the second person, B, to copy A's version, which was then withdrawn; the third copied B's sketch; and so on; in every case all the former sketches were withdrawn from sight; the last alone of the increasing series being issued to be copied afresh. Still, and it is to this that I wish to draw particular attention, although no *two adjacent sketches* exhibit very marked differences, the *extremes* of the series show hardly any resemblance to one another; and, if seen apart from their series, would certainly not be recognized as the same design, or as being in any way related to one another. The examples here given will serve to illustrate this, and, humorous and even frivolous as they appear, afford good examples of the

of the snail had left the body of the mollusk and had 'crawled' up the twig, the hinder end of the snail becoming intimately associated with the twig. No. 12 is a copy made by a skilled artist who was asked to 'interpret' the design at this stage and to show in his sketch what he thought it was intended to represent. The next copyist, not being able to make anything of the design when viewed the right way up, reversed it and proceeded with satisfaction to copy it *upside down*, under the impression that he was reproducing a 'bird' design; so also in No. 14, and in the succeeding copies, which are here omitted, this interpretation was retained. This truly is 'evolution made easy'!"

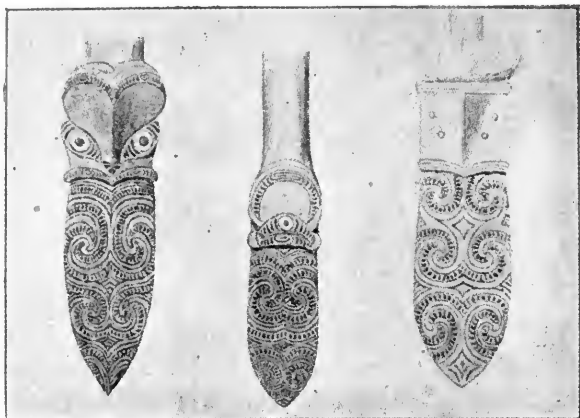
After examining this curious illustration of the causes which have in history contributed to the transformations of lotus ornament, we may borrow from Mr. Balfour's book the illustration of the human figure on spears of the Solomon Islands, noting that as final result, three chevrons derived from one, representing a mouth, have been duplicated, making six, below which an oblong outline is all that remains of the human figure.



Decorative evolution from the human figure. Carved designs on spears of the Solomon Islands. From Mr. Henry Balfour's "Evolution of Decorative Art."

unconscious variation of a design, the result of want of skill. The successive sketches are numbered from 1 to 14 in the order in which they were made. No. 1 is a sketch representing a snail crawling over a twig. In the course of six successive copyings the design had lost its meaning; by No. 10 the shell

From Mr. Balfour's book is also borrowed, with his permission, the illustration for the heads of Maori (New Zealand) staves, in which a human face with protruded tongue is ultimately simplified to a tongue alone—this being the most important feature of a staff-head used to indicate defiance of a



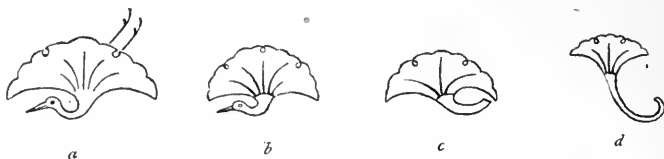
Decorative evolution from the human face with protruded tongue. Carved heads of wooden Maori staves borne by chiefs. From Mr. Henry Balfour's "Evolution of Decorative Art."

rival chief by this symbolic gesture. (There is a fine collection of these staves in the Ethnographical collection at Salem, Mass.)

Again, from Mr. Balfour's book I borrow the illustration of a Japanese symbolic crest, in which the crane, an

torial or carved representations of forms of life have, therefore, resulted from three causes combined: a belief in magic or the otherwise symbolic use of some constantly repeated design, heredity, *i. e.*, repetition, and a tendency to vary.

The two causes of heredity and the tendency to vary are apparently self-contradictory, but not more so in patterns than in other instances to which the Darwinian Theory or the general theories of evolution have already been applied. They are both remarkably illustrated in the case of Greek ornament. Although I am the first to prove the fact, it will appear ultimately that every pattern of Greek art was inherited as regards its basis and motive (and this will appear with-

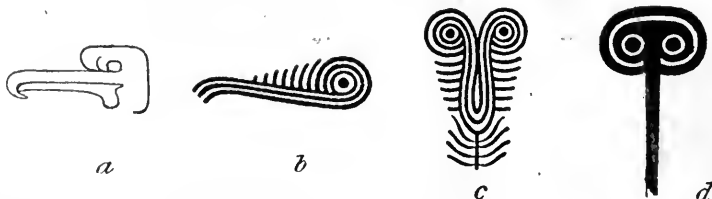


Decorative evolution of a leaf from a crane picture. Japanese crests; from Mr. Henry Balfour's "Evolution of Decorative Art."

emblem of longevity, has been evolved into a schematic form which has more resemblance to a leaf than a bird.

The heads of the frigate bird, from the same source, are New Guinea wood

carvings. Undoubtedly they are picture fetiches and talismanic. Those conventional patterns in historic art which are derived from pic-



Decorative evolution from the head of the frigate bird. New Guinea wood carving. *b* is derivative from *a*. *c* is duplicated *b*—the designs being placed erect and faced different ways. *d* is derivative from *c*. From Mr. Henry Balfour's "Evolution of Decorative Art."

carvings. Undoubtedly they are picture fetiches and talismanic.

Those conventional patterns in historic art which are derived from pic-

resemblance disappears until we establish and demonstrate the connecting links.

Thus in narrowing my argument from

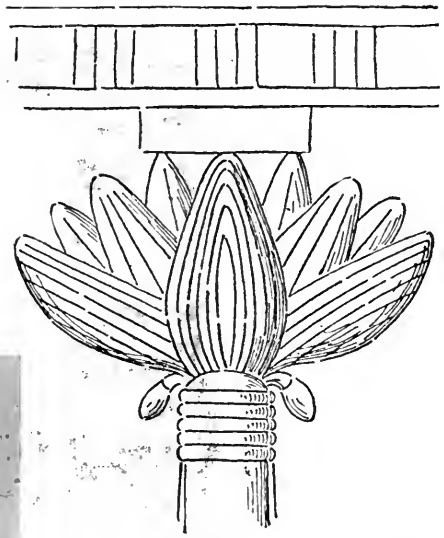
the origin of art and patterns in general to the cases of Egypt and Greece in particular, I wish to point out that it is now definitely known that the oldest pictures and statues of Egypt had a magical cause of being. All the statues, so far known, of the Pyramid period were made solely for burial in wells connected with the tombs and were intended to serve as bodily abiding places for the spirit of the deceased, in case the destruction of the mummy



Magical tomb statue made for the spirit of King Shafra, IVth Dynasty. Gizeh Museum.

should make it useless for this purpose.* All tomb pictures of the Pyramid period were a magical means to the subsistence and comfort of the deceased in the spirit world. In fact, almost our entire archæologic knowledge of antiquity is dependent on a habit of burying objects used in daily life, in the tombs, which habit had its origin in similar ideas.

As regards the multitudes of amulets and amulet pictures which distinguish Egyptian art, the same magical power was in question, and we have seen that all pictures or images of the lotus in Egyptian art were amulets having divine power and significance. I have also offered suggestions, in my first



Typical lotus capital in wood or metal. From a tomb-painting.

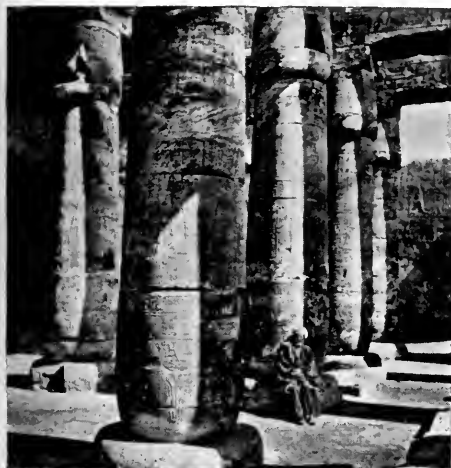
Paper, as to the causes and reasons for the enormous preponderance of lotus forms (as distinguished from other amulets) in Egyptian surface designs and, above all, I have appealed to the fact of this preponderance as one generally known to Egyptology, whatever the reason may be.

As I am preparing now to take up the subject of the Ionic capital, with a view to proving its Egyptian and lotiform derivation, the preponderant use of the lotus in capitals of Egyptian architecture, although generally known, is a fact of importance which needs to be illustrated and insisted on, and we must remember that this preponderance of the lotus in capitals is one phase of a general preponderance of lotus forms (already recognized by scholars), which could be illustrated without limit. For the capitals, I have here introduced some of the most familiar indications, with the purpose of reminding my readers that this use of the lotus was not a sentimental or a decorative use in the sense which the word "decoration" carries for us, but religious, sacred, talismanic and magical. The temples in which it appeared were temples of sun-worship, and of this worship the lotus was the domi-

* The statue of the lady Nefert, whose head is illustrated in the April Number, had, for instance, this use and destination.



Blue enamel Egyptian cups in the British Museum, decorated with talismanic pictures of the lotus. The piece on the left illustrates one of the original forms of the lotus rosette. The piece on the right illustrates the distinction between the calyx leaves and the petals.



Temple ruins of Abydos. Lotus bud capitals.



Temple ruins of Luxor. Campaniform lotus capitals.

nant emblem and symbol, so attested by many hieroglyphic texts, by innumerable pictorial associations in acts of worship and in funereal rites, and by the records of classic writers. The fundamental idea of Egyptian cosmogony was that the heavenly bodies sprang from moisture (the watery element), and we possess the express statement of Plutarch that the water-lily was used as the emblem of the element from which the sun was born (according to a theory of creation which finds its counterpart in our own belief that vapor was the elementary form of all matter).

Now we have the authority of the greatest living representative of Egyptologic science, Professor Maspero, to the following effect: "The object of decoration was not merely to delight the eye. Applied to a piece of furniture, a coffin, a house, a temple, decoration possessed a certain magical property, of which the power or nature was determined by each word inscribed or spoken at the moment of consecration. *Every object, therefore, was an amulet as well as an ornament.*"

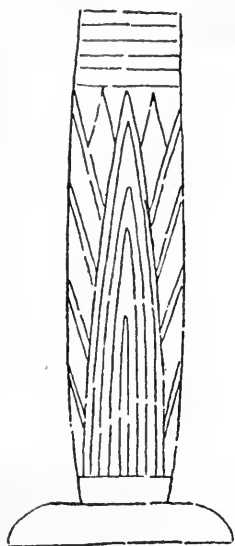
Accepting this dictum for the Egyptian capitals here illustrated, let us notice that among all the types which



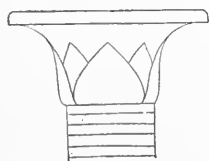
Temple ruins of Karnak. Campaniform lotus capitals.



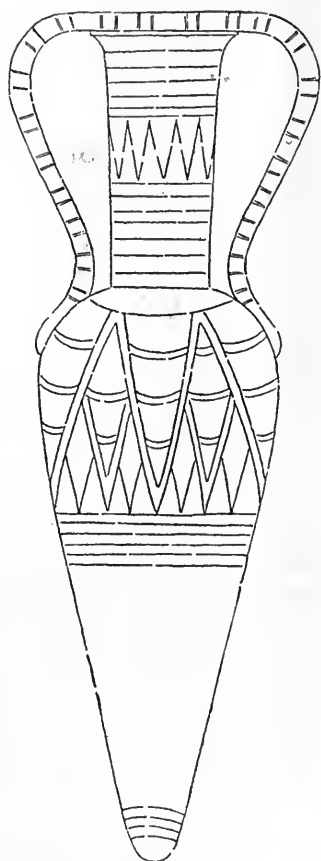
Temple ruins of Karnak. Lotus bud capitals.



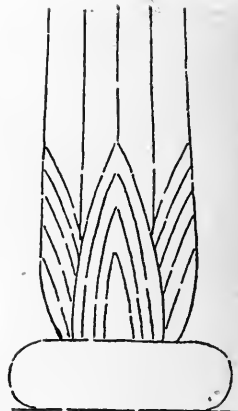
Lower portion of a wooden column, lotus decoration in color. From a tomb painting.



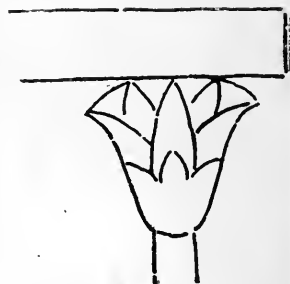
Campaniform capital of Karnak; from a color plate of Lepsius, showing lotus sepals and petals in detail.



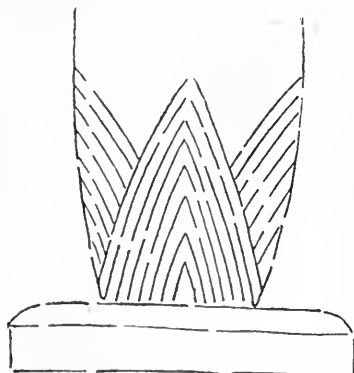
Gold and enamel vase, from a tomb painting, inverted lotus decoration.



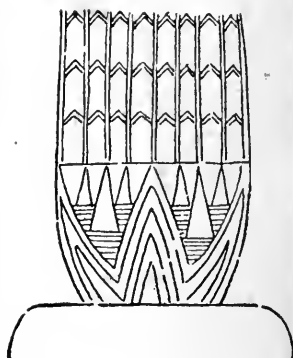
Lower portion of a wooden column, lotus decoration in color. From a tomb painting.



Campaniform capital in wood from a tomb painting; the original showing lotus details in color.



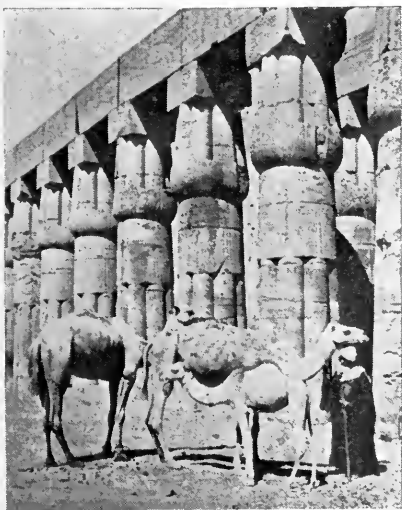
Lower portion of a wooden column, lotus decoration in color. From a tomb painting.



Lower portion of a wooden column, lotus decoration in color. From a tomb painting.

Egyptian architecture has left us there are only two of stone construction which do not employ some form of the water-lily. These are the Hathor-head and the palm capitals. The campaniform capitals are frequently ascribed to the papyrus, but incorrectly. I shall return to this point in a later Paper, but will content myself for the present by quoting Professor Maspero's approval of my view from his notice of the "Grammar of the Lotus" in the *Revue Critique* of June 2, 1892 :

"I confess that the arguments presented by Mr. Goodyear have appeared

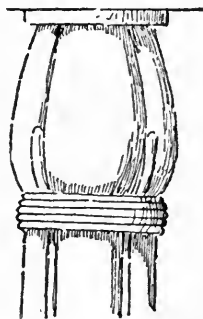


Temple ruins of Luxor. Grouped lotus bud capitals.

to me very strong ones. When we consider the designs which he reproduces and which are faithful copies of the ancient forms one cannot help admitting that they do in fact all appear to attach themselves to different phases of the ordinary lotus, white and blue ; on the other hand, they have nothing in common with the papyrus. These types of Egyptian columns should consequently be attributed solely to the lotus and the ornamental motives which have been derived partly from the papyrus, partly from the lotus, must be attributed solely to this latter plant." *

* J'avoue que les raisons présentées par M. Goodyear m'ont paru être très fortes. Quand on regarde les figures qu'il reproduit, et qui sont copiées fidèlement sur l'an-

As regards the bell capital (campaniform capital) I will simply remark at present that many scholars besides myself have already pronounced it to be a lotus ; that an expanded lotus could only be represented in solid and hard material by a bell-shaped form, and that the sepals and petals of the flower are very plainly detailed in color on the originals of the photograph herewith from Karnak. The lotus-bud capital is universally recognized, and the capital of grouped buds, though not very clear in the shape known to the XVIIIth and XIXth Dynasties, where straight cylinders rather than buds appear, is undoubtedly a conventional descendant



From tombs of Beni Hasan. Grouped lotus bud capital.

from examples a thousand years older and familiar at Beni Hasan, where the bud forms in group very clearly appear.

This much having been said by way of introduction, we must turn now to the matters to be demonstrated, beginning with the Ionic capital, but also pointing out that its problem suggests an entire series of dependent facts.

II.

It is necessary for every one approaching the question of the lotiform origin of Greek ornament to realize the restricted range of Greek ornamental art as regards its elementary motives.

— tique, on ne peut s'empêcher de constater qu'en effet elles semblent se rattacher toutes aux divers états du lotus commun, le lotus bleu ou blanc ; en revanche elles n'ont rien du commun avec celles du papyrus. Les types de colonnes Égyptiennes devraient donc être rapprochés uniquement du lotus, et les motifs d'ornementation qu'on dérivait partie du papyrus, partie du lotus, doivent être attribués uniquement à cette dernière plante."

The following propositions are axiomatic. The ornately elaborated scrolls with foliated details resembling the "acanthus" are unknown before the time of Alexander the Great, or the third quarter of the fourth century B. C. This time is the close of the originating periods of Greek art. Everything subsequent in the way of pattern ornament is derivative and realistic elaboration of earlier motives, and I shall deal with these later

seventh and eighth centuries after Christ, when Arab art and culture were also profoundly modified by them. Meantime, following the middle of the second century B. C., the Oriental Greek territories of the Mediterranean gradually became Roman in government, and their art and culture (in so far as not already known by Etruscan, Samnite and Greco-Italic influence) were gradually transmitted to the Roman imperial world, from whose remains



Greek vase, showing a border of anemions and lotus trefoils on the neck.



Greek vase, showing an anemion on the neck.

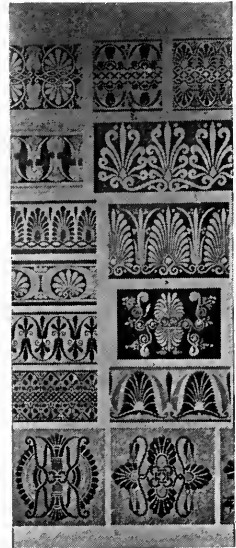
ornate elaborations subsequently. At this time the independence of the Greek states had been overthrown, the Greek literature had passed its zenith, and the Greek sculpture was in its period of relative decadence. In the days of ancient history which followed, the mission of Greek culture was one of diffusion and expansion and its art followed the same course. Both its culture and art spread over the States of Western Asia and North-east Africa (ruled by Greeks at this time), and extended as far as India (where we have seen that Buddhist and Hindoo art experienced decisive Greek influences). Both the Greek culture and the Greek art survived in these countries until the Arab-Mohammedan conquests of the

most of the Greek ornamental details in modern survival are known to us. This period of Greek-Alexandrine and Greek-Roman art was one of great luxury and of a correspondingly ornate and elaborate decorative style, but all its elementary motives are found as far back as the fifth century B. C., in which time they are known to us from the Athenian and other Greek ruins, and otherwise especially on Greek pottery.

The limited number of these elementary motives is a point of great importance. The following summary is fairly comprehensive for surface patterns—the continuous spiral scroll (rarely found at this time), the meander, the guilloche, the "ivy-leaf" in wave line



Greek vase patterns from Owen Jones. Anthemions, lotus trefoils (some inverted), lotus buds (inverted).



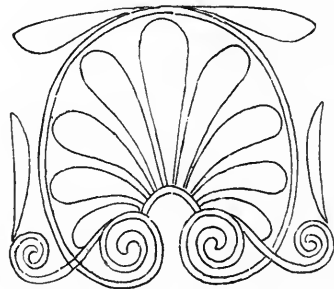
Greek vase patterns from Owen Jones. Anthemions, lotus trefoils, etc.

combination (at this time confined to pottery), the egg-and-dart and leaf-and-dart borders, and the related patterns in surface color, the rosette, the obvious or normal lotus and lotus trefoil, frequently alternating with lotus buds, and the anthemion ("honey-suckle" or "palmette"), generally alternating with normal or obvious lotuses.

Among these motives the normal (obvious) lotus and lotus trefoil, and the anthemion are endlessly varied and endlessly repeated (frequently alternating with one another or with lotus buds). In all the wealth of ornament which Greek pottery has left us we can scarcely point to anything else from the time of the Phidian period downward, aside from the constant traditional border ornaments of the meander and guilloche, and an occasional "ivy-leaf" pattern.*

We will therefore centre our attention on the anthemion ("honey-suckle" or "palmette") to notice its elementary design, which is that of a pair of volutes supporting a palmette crown.

The elaboration and introrsion of the palmate segments are often carried to a point which obscures the supporting



Anthemion from a Greek vase.



Anthemions, lotus trefoils and meanders, from color patterns of the Parthenon.

*Among the earlier Greek vases the so called Corinthian exhibit a preference for the rosette and the Rhodian vases show mainly obvious lotuses of direct Egyptian derivation.

volutes, and these occasionally disappear entirely, but such cases are decorative variants derived from a normal



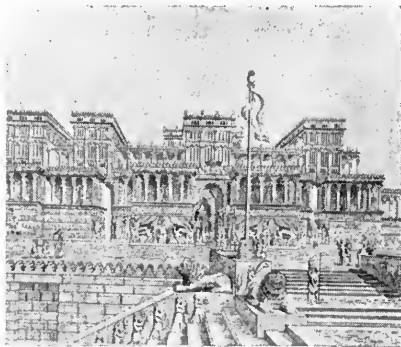
Assyrian palmettes, from fresco ornament on plaster. British Museum.

(original) form in which they invariably appear.

Now, up to date this ornament is supposed to be derived from an Assyrian original found on frescoed plaster, stone relief slabs, and colored tiles of Assyrian palaces, whose excavated remains date from the seventh, eighth and ninth centuries B. C. The Assyrian motive differs in the treatment of the supporting spirals, which are turned upward and inverted from the position which they occupy in most of the primitive and normal Greek examples, but the identity of the Greek

anthemion and of the Assyrian palmette is unmistakeable, and this identity has never been disputed since the time

of Assyrian excavations (which did not begin till about, or after, 1845). There has been, moreover, no doubt about the origin of the Assyrian palmette from the palm, before my own observations. I do not consider the "honey-suckle" name or theory worthy even of a reference, in spite of its widespread use, as it has been long displaced by the palm theory in scientific quarters. The palmette, as the use of this name suggests,



Assyrian Palace, as restored by Fergusson.



Assyrian palmette, ornament of a robe from stone relief. British Museum.

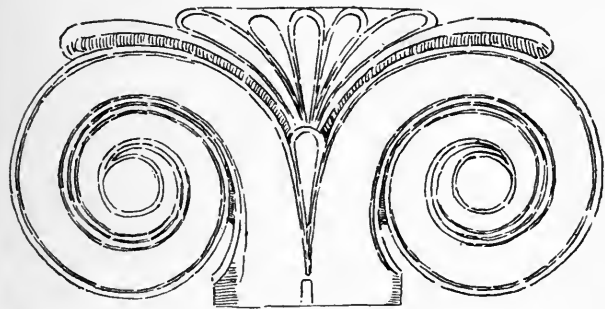


Palm tree, from Assyrian scenery in stone relief. British Museum. The trunk of the tree is also seen in the original.

closely resembles the palm tree as pictured on Assyrian scenery relief backgrounds; so closely that almost any observer would be inclined to suggest and believe in a connection. I personally always did believe in this connection and considered it an axiom of art history until the year 1887.

A little before this time a remarkable step in tracing the history of ornament had been taken, which established the identity, in origin, of the Ionic capital with the volutes at the base of the palmette. The original suggestion was that of the German architect and critic, Semper; but it was an American student who carried the thesis to an apparently triumphant conclusion.

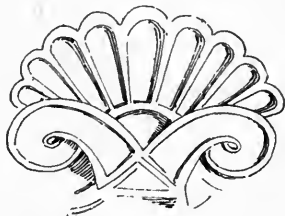
Dr. Joseph Thacher Clarke had discovered near Assos, in Asia Minor, an Ionic capital with volutes springing from the neck of the shaft in a manner comparable to the formation of the volutes of a normal anthemion and supporting a rudimentary or incipient palmette crown,



The Ionic capital of Neandrea. Discovered by Dr. Clarke.

evidently related to the palmette crown of the anthemion. Semper's theory had been that the Ionic capital was evolved from the volutes of the Assyrian palmette by a process of gradual suppression and gradual elimination of the palmette portion of the ornament; such suppression and elimination being natural in using the motive for an architectural support and under pressure from a superincumbent abacus or beam. The discovery of Dr. Clarke's capital supplied apparently a "missing link" in a Darwinian chain of Ionic

evolution from a palm tree, and the volutes of the Assyrian palmette were thought by Dr. Clarke to be a decorative treatment suggested by the hanging bunches of dates as pictured on Assyrian reliefs. Dr. Clarke added to the evidence otherwise furnished by his republication and elaboration of



Detail of Assyrian ivory plaque. British Museum.

Semper's theory* some details from Assyrian ivories in the British Museum, which represented obvious transitional forms between the newly-discovered capital and the ordinary Greek or Assyrian anthemion. When these transitional forms are carefully considered, the conclusion that one form of Ionic capital was evolved from a palmette original is irresistible. It was in the month of July, 1887, that Dr. Clarke's publication fell into my hands, and having had for many years (since 1873) a theory of my own concerning the Ionic volute, I took up the subject and began to study it carefully. All the results of the present article were obtained in August and September of the same year.

I cannot too much insist on the point that Dr. Clarke has positively proven the identity of the Ionic capital with the anthemion, as regards the original unity of the two motives. It is consequently logically impossible for any critic of the "Grammar of the Lotus" to accept my demonstration for the Ionic form and question my results for the anthemion, and yet this has been done by my very friendly critic of the

*American Journal of Archaeology, Vol. 11., No. 1.

New York *Nation* and by Dr. E. B. Tylor in the London *Academy*. It is not too much to say that since my own publications the Egyptian and lotiform origin of the Ionic capital has been accepted by all competent students who have given the matter careful attention. On this point I can only count among my reviewers dissenting voices from the New York *Independent* and the *Revue Archéologique*. But the consequences for the anthemion have been strangely overlooked by the important reviews of the *Nation* and the *Academy*. I think this is because the Lotus Grammar is a voluminous work, containing over four hundred royal quarto pages and over thirteen hundred illustrations, in whose mazes a rapid reader might possibly become confused. Dr. Tylor (*Academy*) was possibly prejudiced by his own theory regarding the Assyrian "Sacred Tree." My proofs for the anthemion were instantly conceded by Mr. Cecil Smith, of the British Museum (in the London *Graphic*), not to mention many other students of distinction; his acquaintance with Greek pottery, on whose evidence the whole question turns, being as wide as that of any English scholar.

It will appear subsequently that the case of the anthemion involves that of the rosette and carries it to the same score, because the Egyptian lotus palmette, from which the anthemion is derived, is a rosette compound. Now I should like the reader to examine my list of Greek motives, to familiarize himself with their repetitions and to then admit that *if* I have proven my case for the rosette and anthemion alone, I have proven a case for three-fourths of all the ornament in Greek use down to the time of Alexander the Great, after the obvious lotuses of Greek ornament have been included.

It will also appear that all the isolated spiral scrolls and volute forms in Greek art, as distinct from the continuous spiral scroll, are involved in the problem of the Ionic form and anthemion, and that they are identical with these motives in character and origin.

We should only then have left to consider the egg and dart motives and

their variants; the continuous spiral scroll, the guilloche, meander and "ivy leaf" patterns, in order to cover the history of Greek ornament down to the time of Alexander the Great; for we have already seen that the "acanthus" motives and the floral and realistic elaborations of the earlier motives date from or after this time.

III.

I begin then my demonstration in chief by insisting on the point that the entire argument of all my observations moves from a new theory of the Ionic



Ionic capital of the Erechtheum.

volute, which has already been widely or generally accepted as far as known, which is incontestably accurate in its results as to lotus origin, and probably correct in its manner of accounting for these results (the curling sepal of the lotus), and which includes all the isolated spirals and scrolls of Greek art—and by insisting that the anthemion and rosette are bound up in this demonstration in such manner that there is no escape from its conclusions for all these motives combined, if the first-named be accepted. When the true origin of these three motives has been conceded, it will have to be admitted that Greek history stands in a new light, and that the history of pattern ornament is an important clue to the history of civilization. It will have to be admitted that Egypt takes a place in history as regards the Greeks, which has so far been conceded to Assyria. It will have to be admitted that Greek art as a whole had not one original independent beginning of its own (for the foreign

derivation of all motives, aside from the three named, can be proven without reference to the question of lotus origin). It will have to be admitted that the originally magical repetition of an originally solar symbol has descended to the nineteenth century in thousands of hitherto misunderstood, neglected, and unrecognized forms.

It has been often said that there are two stages in the recognition of every discovery. In the first stage the critic says it is not true, in the second stage he says it is not new and that every one knew of it before. As far as the Ionic capital, the lotus, and Egypt are concerned we are rapidly approaching this second stage, in spite of the fact that the archæologist of the *New York Times* has written an elaborately patronizing notice of the Lotus Grammar in which the Ionic capital is not mentioned, in spite of the fact that a curator of the New York Metropolitan Museum has sternly frowned upon the theory, in spite of the fact that the lead-



The Erechtheum ; Athens.

ing archæologic monthly of France has refused to accept it,* in spite of the fact that every standard history of art at present concedes the origin of the Ionic capital to Assyria. As regards the topic of this article we are at that interesting stage of the discovery where the opposition hasn't a leg to stand on, and doesn't know it. In other words, we are in the transition stage, between the time when the theory is not true and the time when every one knew the facts before. I am far, however, from asserting for myself a monopoly of this discovery. My own claim is that I made the first observation regarding the Ionic capital and the lotus of which there is any record (1873), that I am the first to announce the phenomenon of the curling sepal as explaining the Ionic volute, that I am the first to point out that all the isolated surface volutes and spiral scrolls of Greek art can be included in the proof for the Ionic volute, and that I am the first



Cast of a portion of an Ionic capital ; from the Erechtheum. Necking ornament of anthemions, two lines of the egg-and-dart moulding, multiple form of the guilloche.

* "Revue Archéologique," June 1892.—Notice written by M. George Foucart. This reviewer read my work so carelessly that he supposes me to assert that the blue lotus does not grow in Egypt and takes issue with me on the point!

to unify all forms of the anthemion ("honey-suckle") with all forms of the Ionic capital as having one common lotiform origin. (I need not insist on my precedence of discovery as regards the rosette.) But Sir Gardner Wilkinson announced the Greek Ionic capital as an Egyptian "water-plant" in 1857.* Colonna-Ceccaldi announced the Ionic capital as a lotus in 1875, two years after my first observation and verbal announcement of 1873. Marcel Dieulafoy, the Persian explorer, repeated the announcement in 1885, and Percy E. Newberry (now of the Egypt Exploration Fund) made an independent discovery of the fact, including the anthemion and rosette in his observations (without publication) in the same year. Moreover the new theory of the Ionic volute was accepted by Miss Amelia B. Edwards; and I am indebted to her for the encouragement, and to her influence for the financial support,

*Not in his "Manners and Customs of the Ancient Egyptians," but in a small book published by the Crystal Palace Company, "Egypt in the Time of the Pharaohs."



Greek Ionic capital and square capital with anthemions, in the British Museum.

which enabled me to publish the *Lotus Grammar*. It is accepted by Professor Reginald Stuart Poole, and by Mr. Cecil Smith, of the British Museum, by Mr. Percy Gardner, Director of the British School at Athens, by Professors Frothingham and Marquand of Princeton, by the *New York Nation*, by the *London Graphic*, by *Harper's Monthly* (July, 1892), and by a number of other critics and other journals.



Nike Apteros Temple; Athens.

IV.

The oldest known architectural monuments of the Greek Ionic Order are the most famous and belong to the fifth century B. C. They are the Erechtheum and the Nike Apteros temple (so-called), both on the Athenian Acropolis. In their time Greek art had reached its perfect development and in our time all older *architectural* Ionic monuments have disappeared.

The older Ionic capitals, none of which are positively dated, as far as now known, appear to have belonged to Steles, that is to isolated pillars used to support statues

or votive offerings or used as tomb-stones. Two especially famous Ionic temples were built in the sixth century—the temple of Juno at Samos and the temple of Diana at Ephesus—but there are no ornamental remains of these buildings.

In this deficiency of primitive monuments and of the transitions between them and those of developed Greek art, archæologists have been in the habit since the time of the Assyrian excavations (dating about or after 1845) of appealing to the appearance of Ionic capitals in one or two Assyrian relief pictures of ædicules, as evidence that the Greeks derived the Ionic capital from Assyria, the general supposition having been that the Ionic capital was absolutely foreign to Egypt. The two best

Egyptian excavator, Petrie. The high authority of Puchstein has asserted the form to be a purely linear decoration as recently as 1887.

Meantime, as already explained, a step in the direction of the truth had been taken by the German architect and critic, Semper, who asserted the volutes of the Ionic capital to be in elementary origin identical with the volutes of the Assyrian palmette ornament, but with the erroneous presumption that the latter was derived from the palm tree. This thesis, as we have seen, was taken up by the American archæologist, Dr. Joseph Thacher Clarke, and apparently carried to a triumphant conclusion in 1886, by his discovery and publication of the capital of Neandreaia.

It may be well to add in reference to the supposed palm tree origin of the anthemion and consequently of the Ionic capital, that the palm tree is almost unknown to Egyptian art (although very common in Egypt) but very familiar to students on Assyrian reliefs in the scenery backgrounds and on Assyrian and Chaldean seals and cylinders. On the other hand, lotus ornaments, whether found on Greek pottery or in Assyrian art, are always conceded to have an Egyptian derivation. The decision of the question between lotus and palm tree means consequently a decision between the rival claims of Egypt and Assyria as



Assyrian Ionic capital; from the relief of Khorsabad.



Assyrian Ionic capital; from the Sippara tablet.

known Assyrian instances are the capitals of a relief from Khorsabad, and of a tablet known as the Sippara tablet; dating from the eighth and eleventh (or ninth) centuries B. C., respectively. Aside from this supposed historic derivation, various theories have prevailed as to the origin of the Ionic volutes. By Viollet-le-Duc they were supposed to be derived from the curling of wooden shavings. Boetticher supposed the capital to represent a sort of pillow, with ends curling downward. The theory that the horns of a ram were the original point of departure has been often suggested, and was held as late as 1890 by the famous



Cypriot vases. Lawrence-Cesnola collection.

regards the most debated ornament of Greek architecture. Moreover, to detach the palmette itself from its supposed palm tree origin and to attach its evolution to the lotus is to show that

of the general literature of the subject had overlooked this suggestion and I determined consequently to examine



Cypriote vase. Metropolitan Museum, New York.

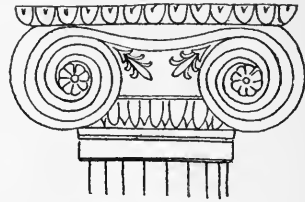
an ornament supposed to be distinctively characteristic of Assyria has an Egyptian derivation and to imply that the corresponding historic influences which made such a transfer possible have been so far unknown to science.

It was at this point, in 1887, that my own serious studies of the lotus began. Persuaded as I had been, since 1873, from pictures on Cypriote pottery that the original form of the Ionic capital was a lotus, I observed that Dr. Clarke's summary of the various theories on the Ionic form and



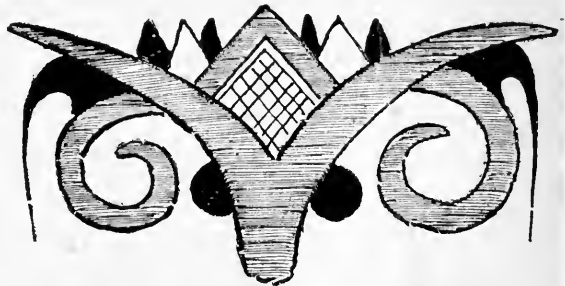
Cypriote lotus, from a vase in New York.

the evidence. So far my theory had been one of suggestion and possibility only, based on the observation of lotus pictures on the Cypriote pottery of

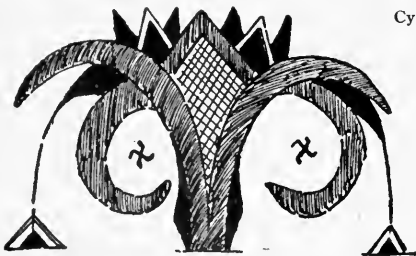


Greek Ionic capital.

the New York Museum and the general resemblance between some of these lotuses and the Ionic capital. The Cypriote vases in question, sometimes considered Phenician, are undoubtedly



Cypriote lotus, from a vase in New York. The pendant lines are a rudimentary survival from small pendant lotuses like those seen in the opposite cut.



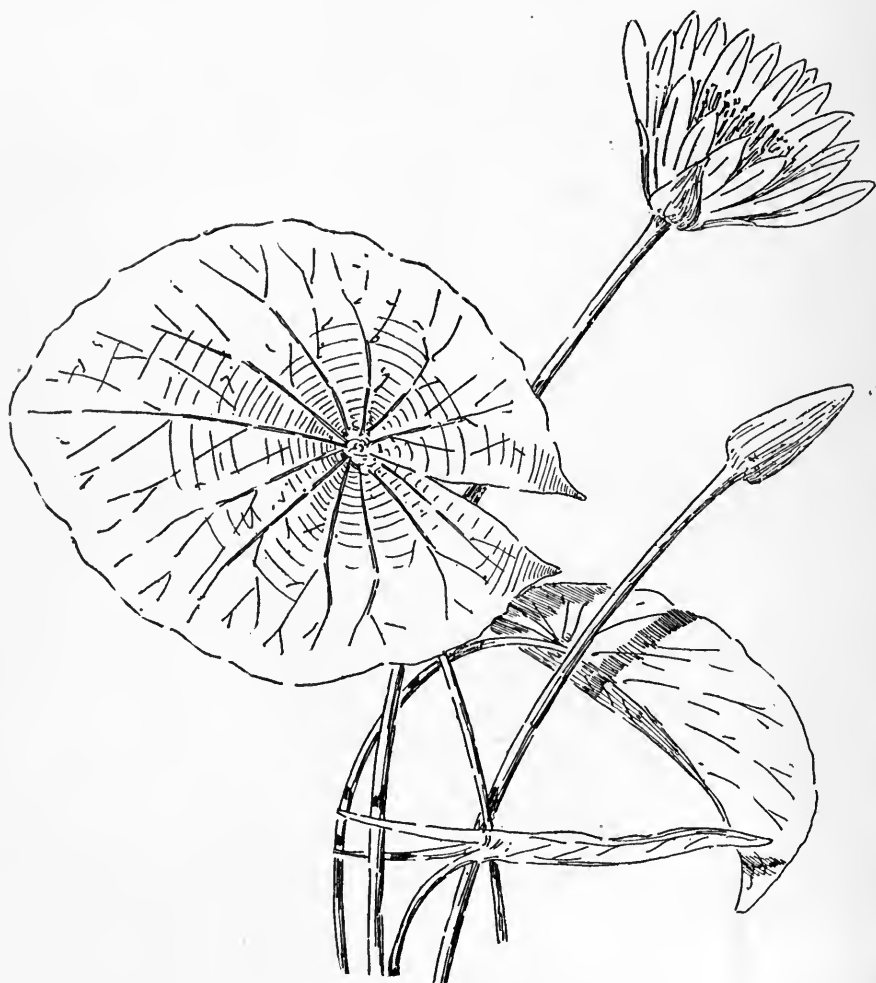
Cypriote lotus, from a vase in New York. (Swastikas and pendant lotuses.)

archaic Greek. Individually of uncertain date, they represent a style as old, or nearly as old, as the earliest Greek settlements of Cyprus, which antedate the Homeric period, and one which lasted as late as the second century B. C.

Before showing how a clue suggested by lotus pictures on Cypriote pottery resulted in proving a hitherto unsus-



The "Rose Lotus" (*Nelumbium Speciosum*).



Egyptian Blue Lotus (*Nymphaea Cerulea*).

pected intimacy of relationship between Assyrian and Egyptian art, and between Greek and Egyptian art (and consequently between the civilizations of these countries), I must call a moment's attention to the features of the Egyptian water-lily as found in nature and as repeated in ornament. I have been able to show that the plant so far supposed to supply the typical ornament of Egypt does not occur in that ornament at all, a point which has been overlooked by every authority excepting Wilkinson. On this head it would appear that I have received unanimous

approval from my reviewers, always excepting the New York *Independent*, whose critic, Professor Paine, apparently objected on principle to everything I had said, because it was I who said it. This plant, erroneously supposed to have supplied the motive of Egyptian lotus ornament, is the *Nelumbium Speciosum* or "Rose Lotus," which is known to have been grown in Egypt in the time of Herodotus, but which is now extinct in Egypt and unknown in Africa. It is a plant indigenous to India and Asia and is the especially "sacred lotus" of the Brahmins, Buddhists and other Asiatics



Egyptian blue lotus. Sketch from nature.

although the *Nymphæas* are also sacred lotuses in India. Its bell-shaped leaf rises on an erect stem high above the water. Its flower has a multitude of exterior enveloping leaves (calyx leaves or sepals) which cover the bud, like scales, and which disappear when the flower expands. Attention to the distinction between the sepals and leaves of this plant (*Nelumbium*) and those of the *Nymphæas* will prove that the latter furnished the types of Egyptian ornament. The *Nelumbium* ("Rose lotus") occurs on Gnostic gems of the Roman period, supporting the god Horus and must have been consequently recognized as a sacred flower in Egypt, but the following points will show that the plant as grown there must have been of foreign introduction and must have been introduced at a date when Egyptian tradition and Egyptian conservatism prevented its use in pattern ornament.

The true water-lilies of the Egyptian monuments are the *Nymphaea*



Ladies' toilet tray. Wood carving, British Museum. Showing the distinctive sepals and cleft leaf of the blue lotus.

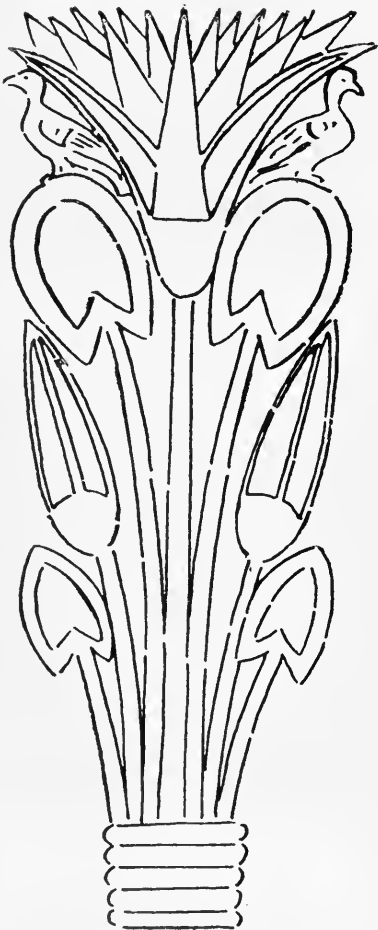


Egyptian blue enamel goblet; showing the calyx leaves of the blue lotus.

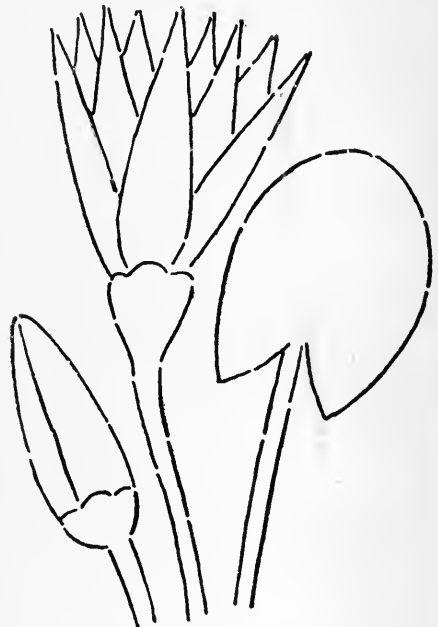
Cerulea and *Nymphaea Lotus*, by which botanical names the blue and white Egyptian lotus are respectively designated. The leaf is cleft and floats on the water (to be contrasted with the bell-shaped leaf on erect stem of the "Rose lotus"). The sepals or calyx leaves are only four in number (to be contrasted with the overlapping and numerous sepals of the "Rose lotus"). They entirely enclose the bud and when the flower expands they are seen in marked contrast of color, coarseness, size and number, as compared with the delicate petals; whereas the sepals of the "Rose lotus" disappear when the flower expands.

These four dark-green calyx leaves

as contrasted with the delicate petals give the flower when seen in side view a three-pronged or three-spiked appearance. My botanical knowledge was savagely criticised by the *New York Independent* in the article written by Professor Paine, of the Metropolitan Museum, because I have used the term "three-spiked" in describing this appearance. This criticism was not only pedantic and illogical, but also dishonest. This criticism was calculated to mislead the public, which could not know without consulting my work that I had used the word in a descriptive and pictorial, not in a botanical sense. Now, in Egyptian art the water-lily is represented as having three prongs or spikes which correspond in side view to the four sepals of the *Nymphaeas*, and the leaf of the plant is always cleft and never bell-shaped. The accompanying illustrations are arranged to illustrate these points regarding the cleft leaf and the sepal spikes, and their details are typical for hundreds and thousands of instances on the Egyptian monuments. These simple points not only prove all the specialists to be in error who have sup-



Handle of an Egyptian wooden toilet tray, showing sepals, cleft leaves, and bud of the *Nymphaeas*.

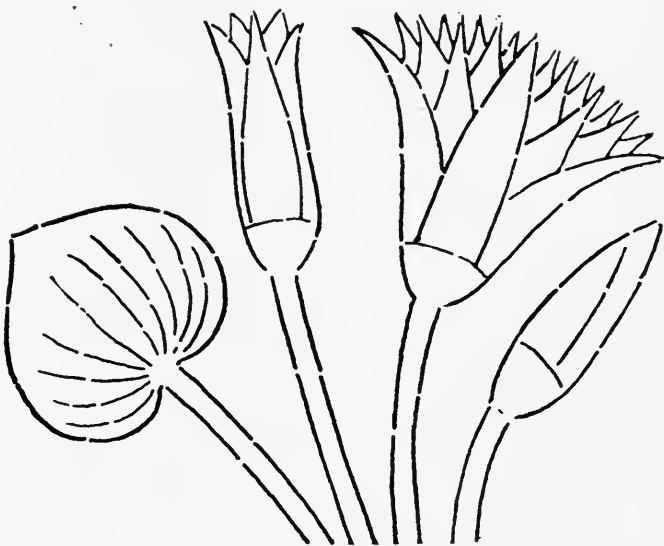


Detail from an Egyptian painting, showing sepals, cleft leaf, and bud of the *Nymphaeas*.

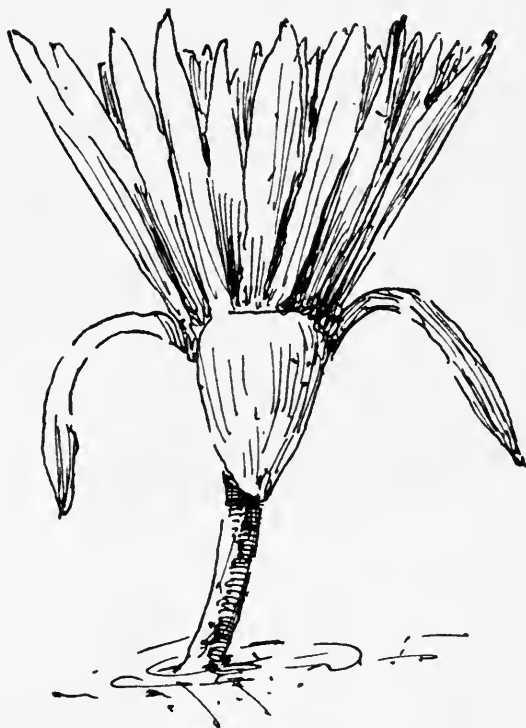
posed the "Rose Lotus" to furnish the typical ornament of Egypt (including Perrot and Chipiez in their recent History of Egyptian Art), but they also assist materially the argument regarding the origin of the Ionic capital, when attention has been given to one additional fact regarding the sepals or calyx leaves.

The calyx leaves of the Egyptian water-lilies occasionally curl downward and away from the flower, a fact which explains the curling side sepals of the lotuses

occasionally pictured on Cypriote vases in the New York Museum. Professor Paine, in the New York *Independent*, says "such reflexion is not true of the Egyptian Nymphaea flowers. As a matter of fact, the sepals of the water-lilies of the Nile do not become reflexed and never did..... reflexion of the sepals is totally foreign to Egyptian Nymphaeas. Such a trait as the backward bending of sepals at time of flowering could not have escaped the notice and record of modern botanists, none of whom mention it." The *Independent* gave Professor Paine eight columns to prove me an ignoramus, four of which were devoted to my supposed ignorance of botany as connected with my alleged mistake about the curling sepals, and refused me a column in which to answer him. The only serious allegation of his review is quoted above, and this allegation is untrue. The Editor of the *Independent* personally acknowledged to me that it is untrue when I met him at the Oriental Congress in London in September of 1892, and I am told that his Journal



Detail from an Egyptian painting, showing sepals, cleft leaf, and bud of the Nymphaeas. (The leaf shows conventional treatment of a more realistic form seen in attendant illustrations.)



Egyptian blue lotus, sketched from nature; showing the curling sepals.

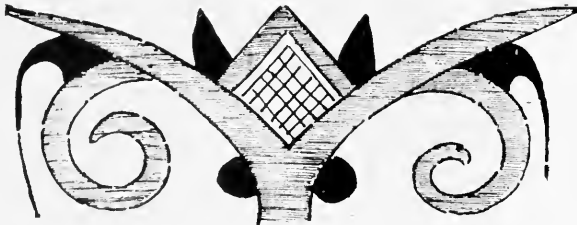
published a short retraction, although I have never seen it. As it appeared that my own personal observation could not meet the denial of Professor Paine, I wrote to Mr. Percy E. Newberry, the botanist, who was employed by the authorities at Kew to catalogue their specimens of ancient Egyptian plants, and who is also employed as an Egyptologist on the staff of the Egypt Exploration Fund, and I received from him the following answer: "I have often seen the sepals of the white water-lily (*Nymphaea Lotus*) curl over when the flower is fading, and I have not a doubt in my own mind that the Ionic volute was derived, or rather suggested, by this habit. The blue water-lily (*Nymphaea Cerulea*) also curls in the same way, and I have seen specimens at Kew with a decided twist, thus:"



Photograph of the drawing in Mr. Newberry's letter dated July 1, 1892; containing my invitation to attend the Ninth Oriental Congress.

The cut is a *fac-simile* from Mr. Newberry's letter, and corresponds with the one taken from nature by my artist in New

York and reproduced from the Grammar of the Lotus. A few days after receiving Mr. Newberry's letter I saw a specimen of *Nymphaea Cerulea* in Union Square with curling sepals, but my experience with the *Independent* did not encourage me to communicate the fact to that Journal. This affair shows how little real knowledge there is of the habits of the lotus and consequently how little knowledge there has been of the relation between nature and the representations of Egyptian and Cypriote art.



Lotus with curling sepals, showing an erect central sepal. From a Cypriote vase in New York. (The pendant lines are explained in a preceding similar cut.)

We are now prepared to consider the origin of the Ionic capital. In the flowers on Cypriote vases, which I have reproduced in this Paper, we notice



Lotus from a Cypriote vase in New York, showing two curling sepals and one erect sepal or central spike.

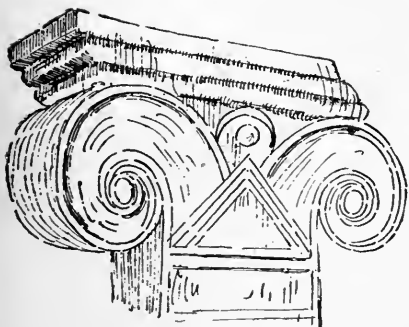
that only the side sepals are curled over and that the central spike or prong represents an erect calyx leaf. This departure from nature is an obvious conventional scheme to escape



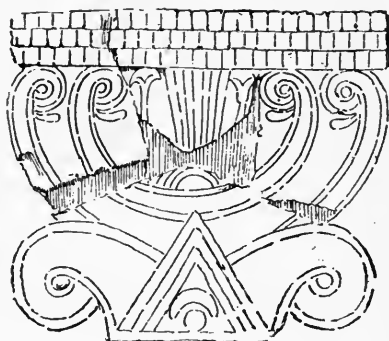
Proto-Ionic Cypriote pillar capital, with emblems of sun and moon worship. Louvre. Conventional lotus sepals, two curling, one erect.

the necessity of foreshortening the central sepal, because foreshortening was foreign to the instincts and habits of ancient decoration. Now, on certain Cypriote Ionic capitals and Cypriote pillars with Ionic volutes

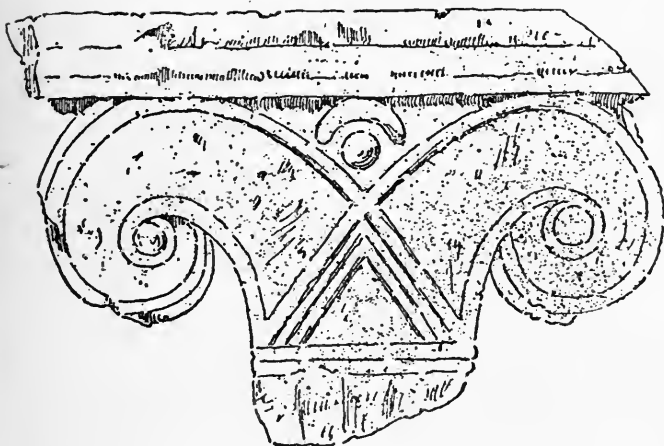
we notice a similar erect prong, spike or triangle. The same phenomenon appears in various Ionic forms and capitals which are scattered all the way between Assyria and Tuscany, and which date from the eleventh century (Sippara tablet) to the third century B. C. (Tuscan example.) This central spike or triangle is obvi-



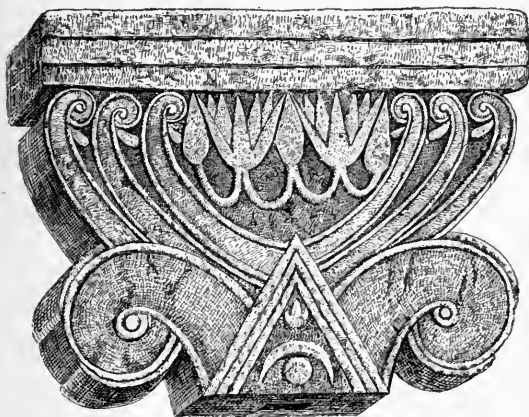
Proto-Ionic Cypriote pillar capital, Louvre. Conventional lotus sepals; two curling, one erect.



Proto-Ionic Cypriote pillar capital, Louvre. Conventional lotus sepals; two curling, one erect.



Proto-Ionic Cypriote pillar capital, with emblems of sun and moon worship. Louvre. Conventional lotus sepals; two curling, one erect.

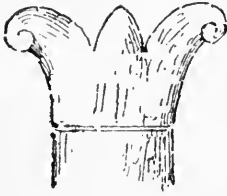


Cypriote Proto-Ionic pillar capital, with emblems of sun and moon worship. Aphrodite Sanctuary of Idalium (Ohnefalsch-Richter.) Conventional lotus sepals; two curling, one erect.

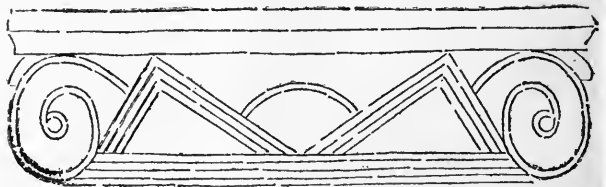
ously a rudimentary (Darwinian) survival, in conventional art, of the central upright calyx leaf of the lotus, while the volutes are as obviously survivals of a form analogous to the curling sepals of Cypriote pottery lotuses. The argument so far stated then is this: The flower as copied in ornament exhibits sometimes three erect prongs or spikes corresponding to a natural appearance of the

white and blue Egyptian lotus, and sometimes it represents two curling side sepals roughly corresponding to nature and one erect central sepal explained by decorative inability, or indisposition, to foreshorten.

When we find in certain Ionic capitals the decorative evolution of the side sepal into a volute, combined with a rudimentary "Darwinian" survival of the central spike, the conclusion that the capital is derived from one representing a conventional lotus is irresistible, especially when intermediate forms can be quoted showing a conventional survival of the petals.



Etruscan Ionic capital, from a relief. Showing the central spike (erect sepal) and two curling sepals.



Cypriote Proto-Ionic capital, showing rudimentary survival of two lotus petals between curling sepals and a degraded curved form of the central sepal (Colonna-Ceccaldi).

This demonstration is simply initial, and there are many others, which fall outside the limits of the present Paper.

and which meets the problem raised by Dr. Clarke's capital; but this cannot be presented before the rosette and its



The Sun-worshiper and the lotus the stem supported by an Ionic lotus with central spike). Assyrian ivory plaque. British Museum.



Assyrian Ionic capital, showing a central spike (Sippara tablet).



Assyrian ivory detail. British Museum. Conventional lotus, showing the central spike and curling sepals.

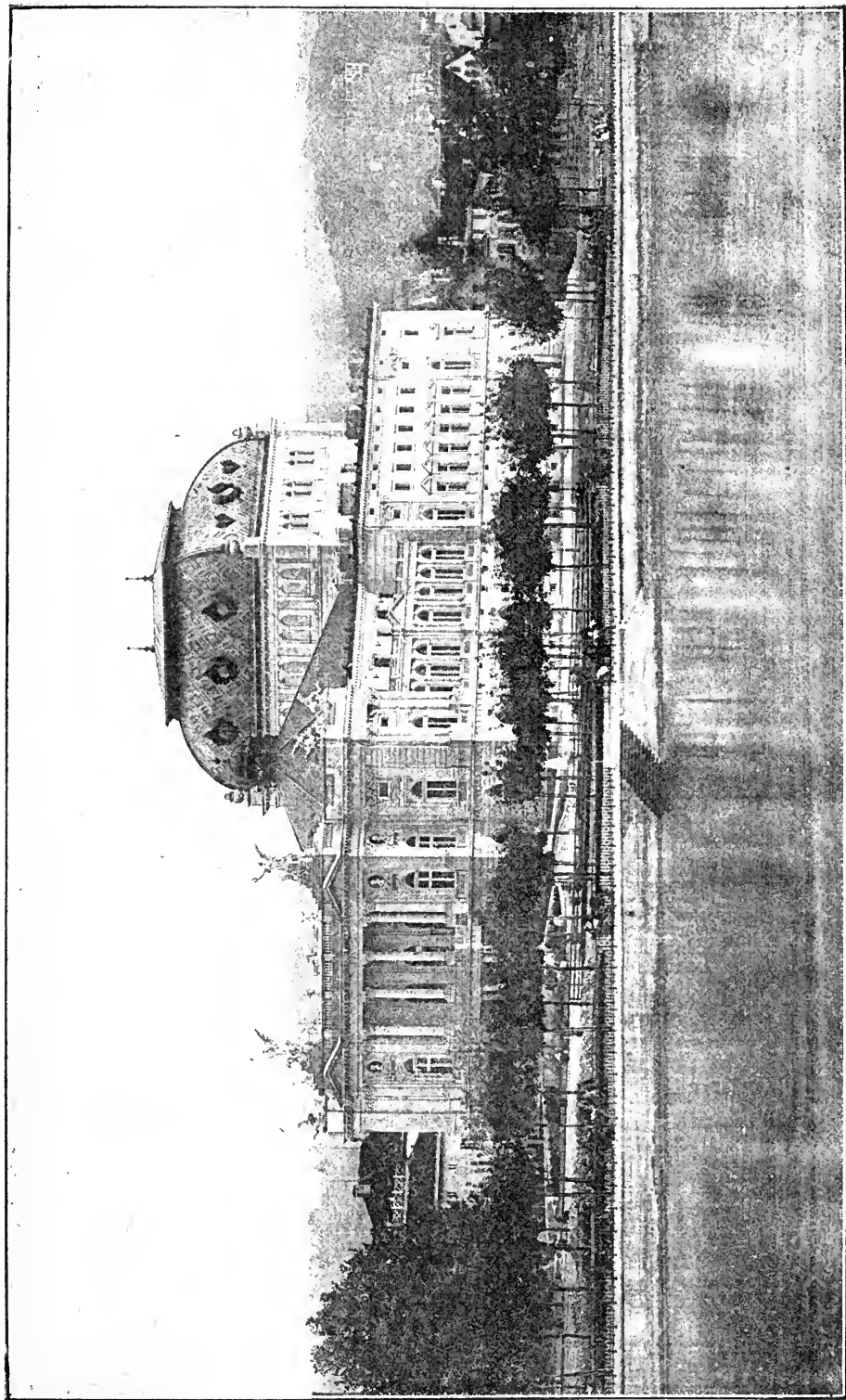
compound, the lotus palmette, have been taken up.

I first saw my way to a demonstration for the Ionic capital through this correspondence of the central spike on Cypriote capitals with the central spike on Cypriote pottery lotuses having an incipient Ionic form, and I first observed the spike in a voluted Ionic lotus at the base of a lotus with a worshiper, represented on an ivory tablet from Nineveh. Only experts in the antiquities of Cyprus, Syria, and Greece can be expected to understand the almost total destruction of the early monuments which obliges a student to seize on such points and press them.

The most crushing demonstration is that which involves the anthemion by way of the Egyptian lotus palmette,

Wm. H. Goodyear.

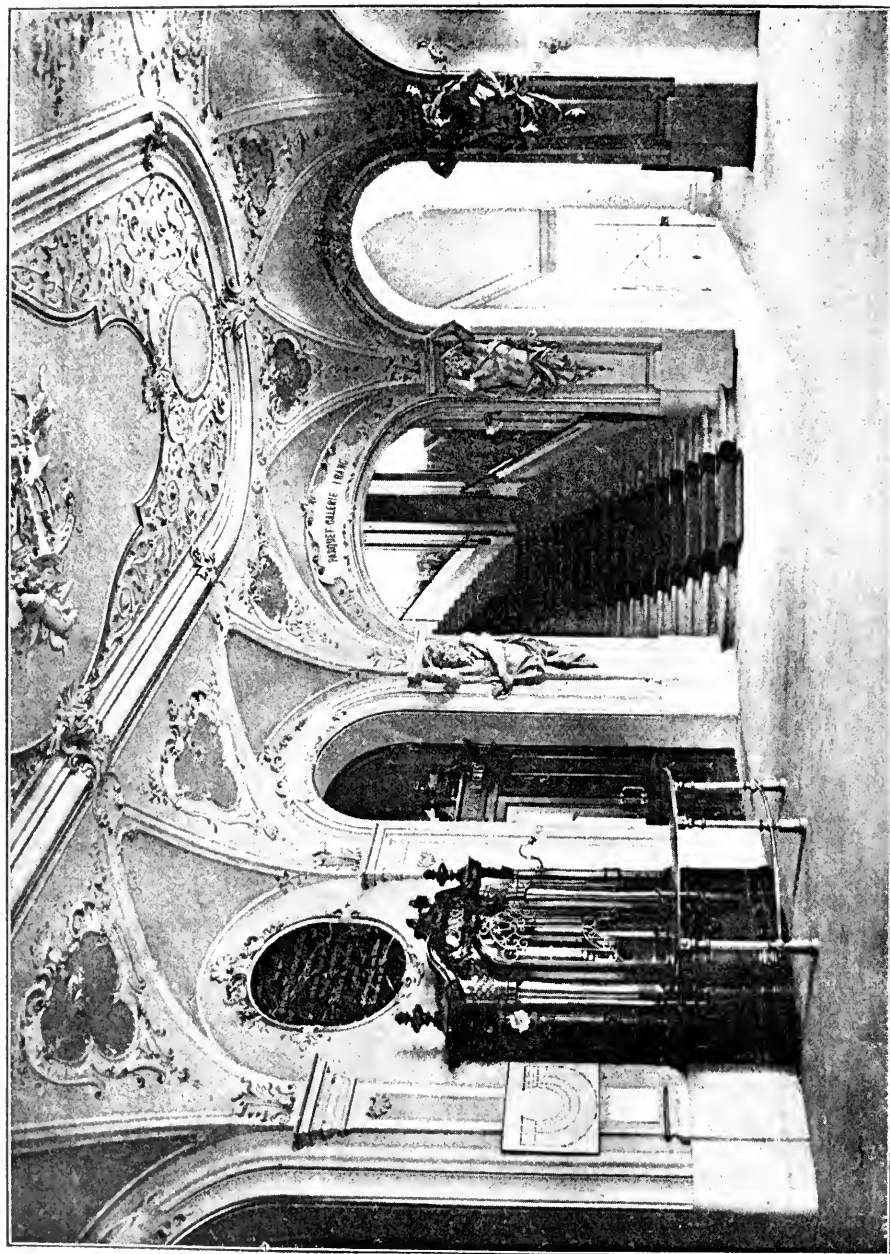
(TO BE CONTINUED.)



Zurich, Switzerland.

NEW THEATRE.

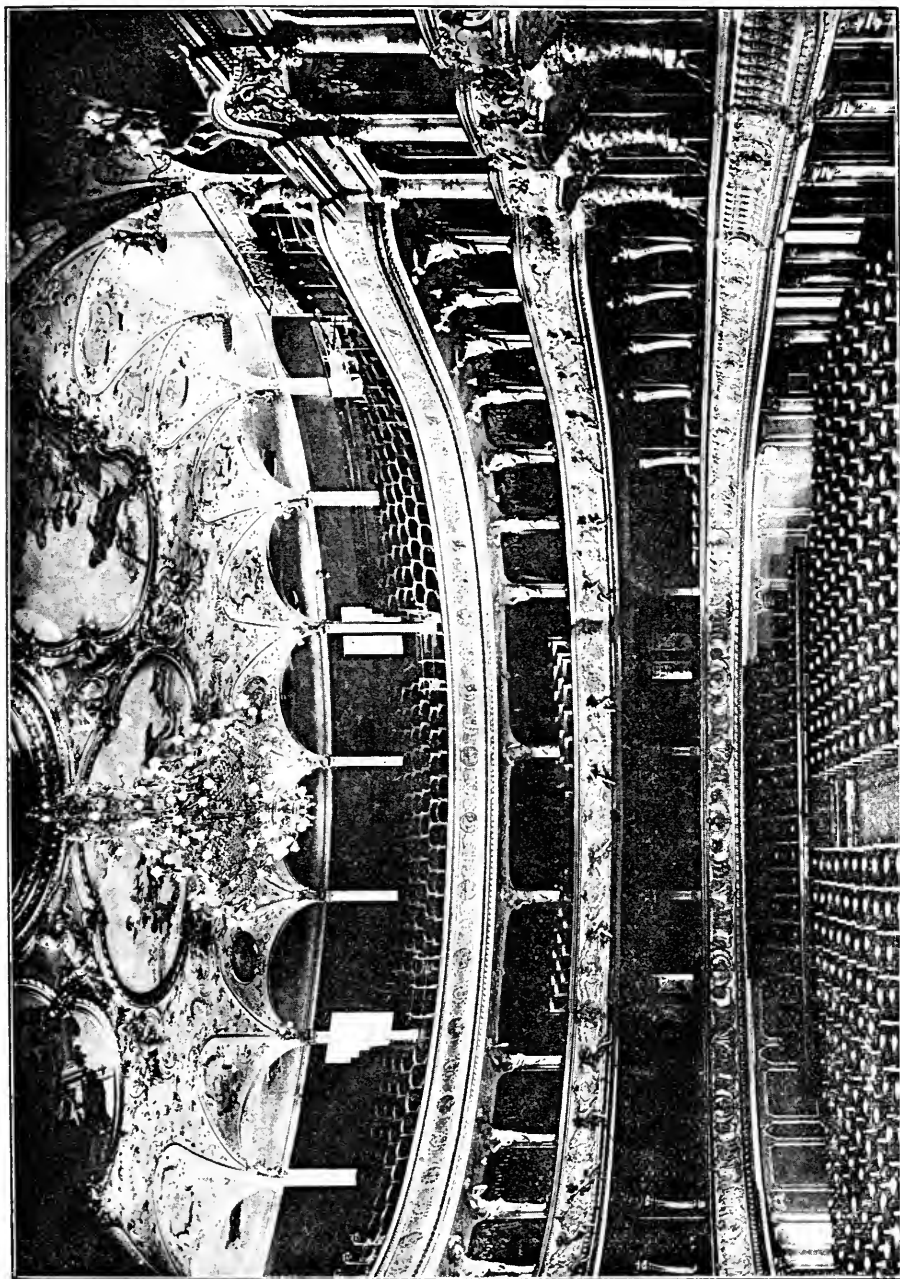
Fellner & Helmer, Architects.



Zurich, Switzerland.

FOYER OF NEW THEATRE.

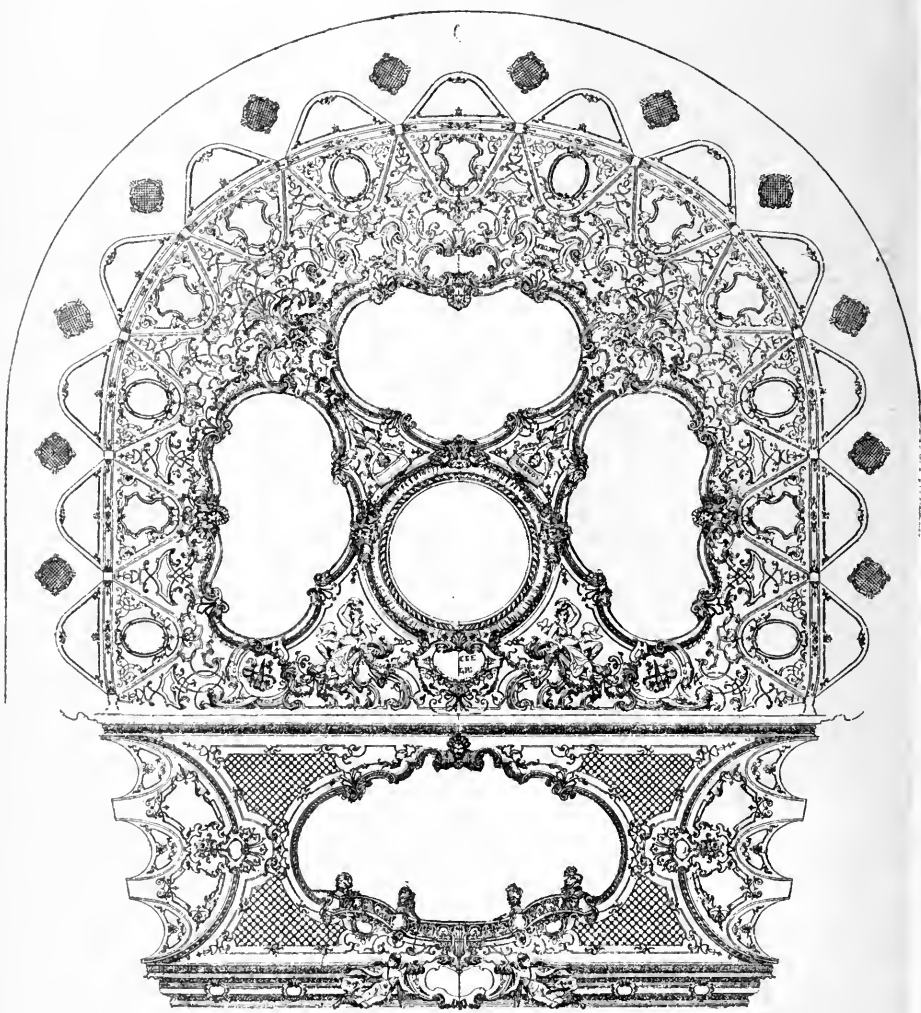
Fellner & Helmer, Architects.



Zurich, Switzerland.

AUDITORIUM OF NEW THEATRE.

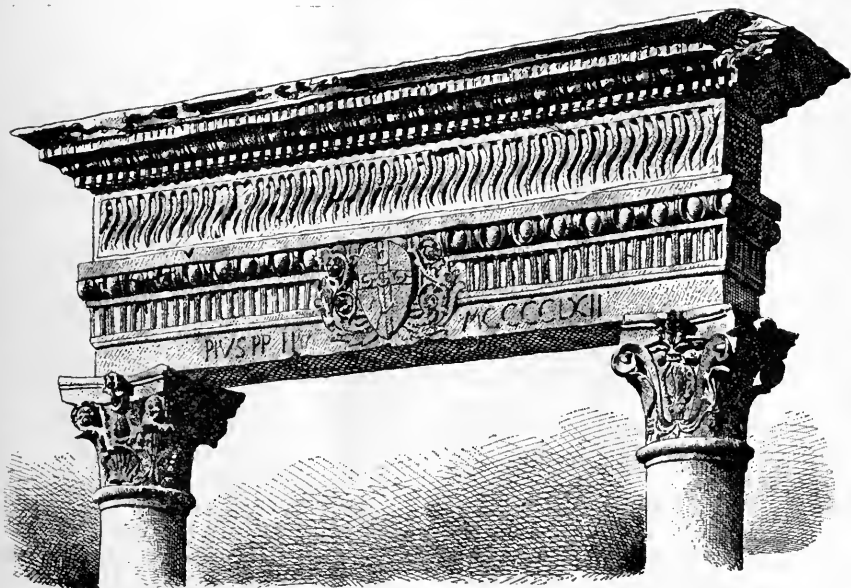
Fellner & Helmer, Architects.



Zurich, Switzerland.

CEILING OF NEW THEATRE.

Fellner & Helmer, Architects.



WASTED OPPORTUNITIES.

No. II.



IN the first issue of the current volume THE ARCHITECTURAL RECORD announced its intention to add to its series of critiques on current architectural practice, one which should deal with the plans of office buildings, calling attention to defects which exist in them and showing the consequences thereof. From the comments which we have received concerning the first number, we are inclined to think there is an opportunity to do good in this direction.

Quoting from the first number, we would again remind our readers that an office building, from the point of view of this series, is erected with the specific purpose of making money for its owners. It must, therefore, to be successful, yield as much interest on its gross cost as does any of its competitors, and if it can be shown that in any particular a change in the plans could have been made to render it still more profitable, an opportunity in our meaning of the term, has been wasted. We

desire to again state that we do not wish to be considered as *laying the blame for any defects on the shoulders of any one person*, because in almost every case peculiar conditions of environment, or special conditions incidental to the proposed use of the building, or misapprehension of instructions, or undue importance given to any particular feature in the instructions, might result in a violation of the fundamental principles.

A good office building, we have said, must combine the following requirements:

- (a) Ease of access.
- (b) Good light.
- (c) Good service.
- (d) Pleasing environment and approaches.
- (e) Maximum of rentable area consistent with true economy.
- (f) Ease of rearrangement to suit tenants.
- (g) Minimum of cost consistent with true economy.

For the current number we have selected one of the newest of New York

office buildings, standing on the southerly side of Pine street, at Nos. 27 and 29. This we do because in this country it is probable that the office building received its initial development in New York City, and because there is to-day in the lower part of New York an unprecedented demand for offices, leading to the erection of numerous buildings. At the same time New York architects are giving to their work a great deal of careful and painstaking study, and regardless of the true value of the result the solutions must always be studied with interest.

The building is located on a lot about 50 feet wide, 74 feet 7 inches deep on the westerly side, 94 feet 8 inches on the easterly side, and of irregular shape, as shown by the broken dotted line. It stands on fairly good soil and is thirteen stories high, the ground floor being placed about 4 feet above the level of the street. It is located in the vicinity of numerous other buildings more or less modern and more or less deserving the title of large, and in order to have its offices occupied must directly compete with them for the average class of tenants.

The arrangement of the ground floor is evidently intended for the accommodation of the owner's offices, and above that for general use. The front is principally of stone and in its treatment indicates a due appreciation of the requirements of the modern office building. No provision has been made for swaying the building, which is probably due to the fact that the neighbor on the west is almost as high, and as the question of construction is not at present involved, this phase will not be taken up.

We present herewith two plans, one showing the building as it is, and the other as it should be, and also a schedule of differences for purposes of comparison. This illustration is particularly valuable because of the apparent simplicity of the plan of the building as it is, leading one at first sight to suppose that there is really no loss, a more complex plan costing so much more to build as to make it undesirable.

(a) *Ease of access.*—The position of the elevators in the two plans will be seen to be practically the same; the difference being that in one case they are moved out from the wall so as to admit light past them into the hallway, and in the other case backed up against the wall. The size of the cars is slightly smaller in one case than the other, but not enough to make any appreciable difference. In the alternative the stairs are placed out of the way, and from the first floor to the second would run from a landing beside the elevator so as to make the entrance the width between the columns and enable the ground floor offices to be carried through to the rear, occupying the entire depth of the building.

(b) *Good light.*—Experience has time and again confirmed the statement that can be most easily demonstrated, namely, that courts should have their long axes north and south. In the present case it will be seen the court is of irregular shape, but with the long axes east and west and an average length of court on the north and south line of 6 feet, the point where the court widens being on to a stair-well and being there only 13 feet long. At the easterly side of the building the court lengthens to 29 feet, but that additional length is of service during only the first half of the day. The consequence would be that two-fifths of the tenants, occupying 42 per cent of the total rentable space on each floor, would be compelled during that part of the day when direct sunlight strikes the offices, to lower awnings or to draw down heavy curtains, thus rendering the light of but little avail. As a consequence, the lower offices would be more or less in shadow, while the upper offices that receive the direct sun would also be in the dark on very bright days by reason of the unpleasantness of the light in the southern end of the office. Thus it will be seen that while the court area embraces 150 square feet more in the plan as it is than in the plan as it should be, yet its service in lighting is decidedly less.

This also has its effect in a very marked degree on the lower offices, which, being the most valuable, it is

especially desirable to have the most light in, an arrangement which is defeated by the transverse court. In one case (the building as erected), the distance from source of light to source of light being about 65 feet, and in the other (as it should be) being 34 feet. In addition to this defect, if a line be drawn at a distance of 20 feet from the windows, which is the maximum limit of good light in the rear of an office, it will be found that 22.4 per cent of the total rentable space lies beyond it, is of questionable utility and, while it can be rented, will not return to its owners as much as would be the case were it properly lighted.

A fair value to be placed on the depreciation due to this, would be one half of its usual rental value, which, for thirteen floors, at \$1.50 per square foot, capitalized at 8 per cent, amounts to \$59,231.25.

It will be noticed that ventilating shafts are provided in the various offices, a provision which would be wholly unnecessary if the offices comply with the requirements of good lighting. On the plans of the building, there are certain windows shown above the seventh and above the tenth stories, but these are likely to be at any time closed off and cannot, therefore, be taken into account. The question of light, also, in its effect on the hallways of the building, affects the rental value. In this case, the only light which can get into the large corridor is such as comes down the stairs or down the elevator shaft, and it must necessarily follow that the corridor will always be gloomy. In the plan, as it should be, the stairs are at the north end of the court, with windows on two sides, admitting light directly into the elevator shaft and halls and reflecting it from the walls of the offices also into the halls, so that they would always have a bright effect.

(c) *Good service.*—The number of elevators complies with the usual requirements, and their size is about right. Certain space is taken for the elevator machinery which would be saved if electric elevators were used, but as that can hardly be made available for renting purposes, the same provision is

made on the plan as it should be. The stairs are such as to require expensive treatment throughout, and could with advantage be delegated to a less conspicuous position did the plan admit of it. It would have been practicable, for example, to have taken the dark ends of the easterly offices for the stair-well and put an office where the stairs and toilet are, and thus have improved the present plan somewhat, overcoming the confessed darkness of the corridor by a brilliant illumination. The location of the toilet is objectionable on account of the loss of space resulting therefrom, and the undesirability of a distribution of the toilets throughout the building. In the plan as it should be, the southerly end of the building past the elevator hall would be devoted to the janitor and the toilets, where provision would be made for both sexes, and this would leave the northern portion with ample light for renting, or if it were desired, the arrangement could be reversed; the janitor's quarters opening directly on to the stairs and the toilets at the northern end of the east court, and leave the rear portion for renting. This is a question easily solved and involves no greater loss of space than occurs now, owing to the size of the corridor, and of toilets and of the hallway on the thirteenth story, and does not therefore appear in the schedule. If there were objections made to having the toilets on the top story, units 11 and 12 are very well fitted for toilet purposes on any one of the other floors. Concerning the wash basins in the offices, their desirability is always more or less of a question. They are entirely omitted in the above sets of plans, although it is our belief that it is proper to include them always. In addition to the undesirableness of losing space on account of the distribution of toilets throughout on every floor, there is the sanitary objection that the toilet windows opening throughout the height of the building are almost certain to act as supplies of fresh air to the halls and corridors rather than to removing the air from them, and the odors inevitable from their nature are sure to be carried into the building.

SCHEDULE OF DIFFERENCES.

DIMENSION.	As it is.	As it should be	Credit.	Debit.
Number of columns.....	16	22	\$1,200.00	
Span of girders.....	21 ft.	18 ft.		
Span of beams.....	16 ft. 6 in.	13 and 18 ft.		\$2,400.00
External windows, per floor.....	13	17	2,600.00	
Wash basins, per floor.....	1	1		
Urinals, per floor.....	1	1.75	675.00	
Water-closets, per floor.....	2	1.5		480.00
Elevators.....	3	3		
Length of walls.....	233 ft.	284 ft.	15,720.00	
Angles.....	8	10	2,700.00	
Height.....	190 ft.	162 ft. 6 in.		
Court area.....	787 "	633 ft.		
Hall and stairs area.....	450 "	501 "	300.00	
Elevator.....	107 "	91 "		
Toilet, etc.....	173 "	72 "		750.00
Wall—total, ÷ 13.....	323 "	390 "		
Lot area.....	4,014 "	4,014 "		
Net rentable*.....	2,174 "	2,327 "		36,043.75
Gross floor area.....	2,467 "	2,682 "		
Dark area, ½ value.....	486 "			59,231.25
Building cube.....	613,130 "	547,722 "		19,622.00
Percentage of light rentable space.....	77.6	100		
			\$23,195.00	\$118,527.00
				23,195.00
			Net Debit	\$95,332.00

*No account taken of added thickness of walls due to extra height. Average of all floors. Number of square feet shown on plan taken for a special floor.

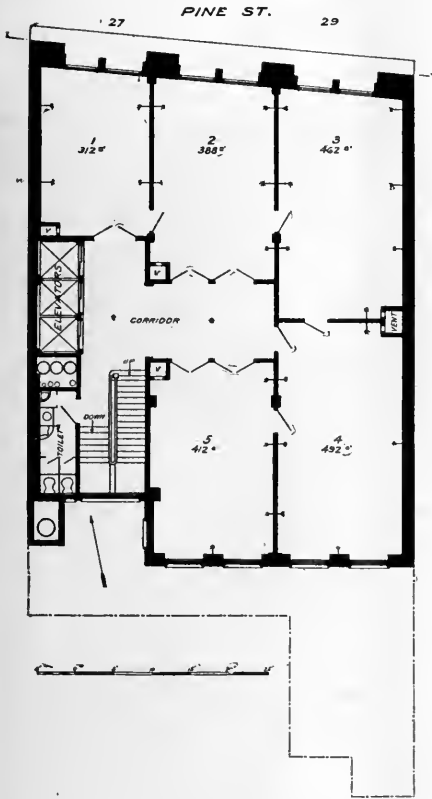
(a) *Pleasing environment and approaches.*—This is a subject concerning which we have no interest, it being exclusively within the control of the owner.

(c) *The maximum of rentable area consistent with true economy.*—Ordinarily it could be said without hesitation, that that plan which is most nearly rectangular comprises within its exterior lines the greatest rentable area with the least expenditure of money. The office building problem, however, is one in which a number of other items enter, and these make up the result. In the present instance, it will be seen, for example, to be wise economy to extend the little piece of the building down the line, providing the rental value is about \$1 per square foot, because the interest on the added cost at 8 per cent would amount to about \$1,200 per annum, while there would be a total rentable area of 1,500 square feet gained by the addition.

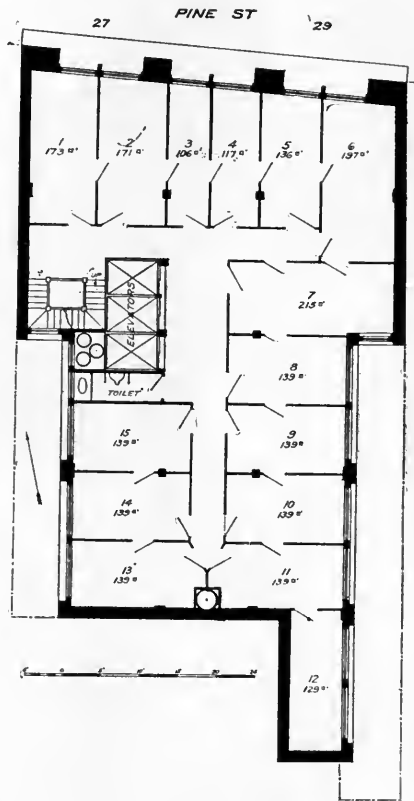
The fact that this office can only be

approached through No. 11 would detract slightly from its value, were it not that on every floor there would be at least one pair of offices that a tenant would desire to rent together. The subdivision of the rentable space of the plan proposed follows the well-known law of a number of units, all of practically the same size; in this case averaging 9 feet x 15 feet 6 inches for the rear offices and 9x20 feet for the front ones, which would have a greater value. The maximum depth of the offices being 20 feet, all of them would be perfectly lit, and would therefore suffer no diminution in rental value by reason of lack of light.

The fact that it is possible to have fourteen different tenants on each floor instead of five is also a consideration which would enhance the value of the building. The corridor space of the executed building is somewhat less, which is an advantage, providing it be wide enough; the superfluity simply adding to the cost. In this case it will



PLAN AS IT IS.



PLAN AS IT SHOULD BE.

be seen that this leads to a credit of a comfortable sum. Of course there would not be this credit if on the proposed plan the floor were subdivided for a service of five tenants.

The desirability of the proposed arrangement is to be emphasized, however, when it is desired to obtain the maximum possible area on one floor, the plan as proposed giving an area of 220 square feet, or about 10 per cent more than the other, and this while permitting the circulation to be kept past the floor without any interruption, leaving the stair-well open through its entire height, and making it also feasible in the event of a large financial institution occupying a floor to make provision thereon for the toilet conveniences of its clerks.

(f) *Ease of rearrangement to suit tenants.*—One of the best posted of New York real estate men informed us that 150 square feet are almost always to be

rented in a desirable building, whether the tenants leave at the expiration of the renting year or not, while larger offices can only be advantageously rented just before the beginning of the rental year.

This statement well voices the opinion of all men who have to do with renting, and is borne out by the fact that the large majority of office buildings are so divided as to permit of the renting of small units. This being the case, it can be seen at once that the offices containing 312 to 492 square feet must inevitably be difficult to rent. Should the subdivision be adopted of smaller units, halving the offices in the executed plan by means of lines drawn from the mullions of the windows, we would then have offices badly proportioned, and would, in addition, lose 80 square feet more of rentable space, which, at the value that we have allowed for it, would mean a further loss in addition to that

given in the schedule of \$9,750 when capitalized at 8 per cent. This would make the hall area of the plan as it is 530 square feet, thus leading to a debit of \$180 instead of a credit of \$300, making the net debit on this account \$10,230 and the total debit \$105,562. This added amount does not appear on the schedule, because we have already penalized it and desire to avoid unnecessary complication. No mention is made of the fact that on account of the peculiarity of the location of the light outlets, the partitions which are shown must remain as fixtures unless there is considerable expense incurred to cut off the pipes. In the proposed plan the subdivision is such as to meet the majority of requirements without change.

(g) *Minimum of cost consistent with true economy.*—In the plan, as executed, there is approximately a cube of 613,130 feet, leaving out of account the additional cube occupied on the ground floor, and whatever space there may be below its level. In the building, as it should be, there is 547,722 cubic feet, which, allowing the value of 30 cents per cubic foot as the cost of the additional space, makes an excess of cost of \$19,622. In this no account is taken of the additional cube and cost by reason of the fact that the walls are heavier than are required by the regulations of the New York Building Department for a building of the given number of stories in height.

The spacing of the columns is such as to require girders 15 inches deep for the sake of stiffness, while had they been spaced, as they might have been, 12-inch girders would have been deep enough. In the same way, the beams to make the spans must be at least 12 inches deep, while they might have been

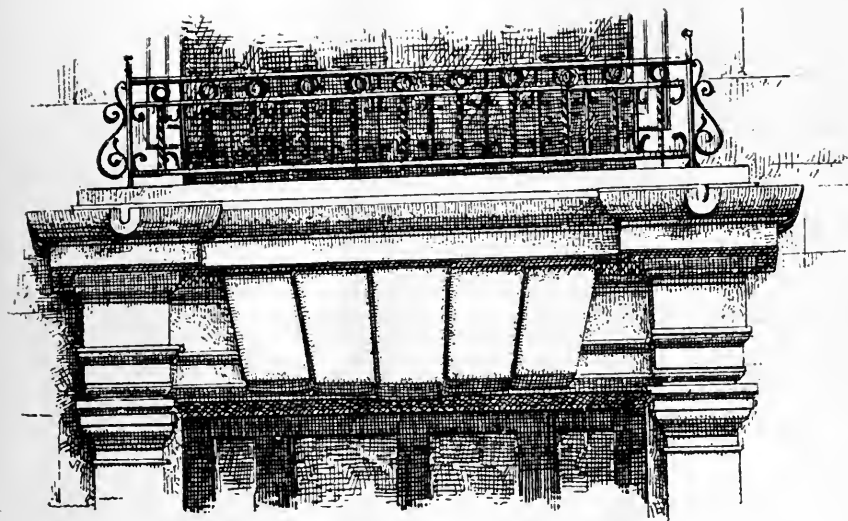
made 8 inches deep throughout, except for the front bays, where 12-inch beams would be needed.

This would affect an economy in the metal framing of about \$800 in the framing alone and about \$1,600 in the floor arches, or a total of \$2,400 as given.

Due to the added light there are a greater number of windows, and these have been credited to the other plan at a fair price therefor. In the matter of urinals there is a deficiency on the plan as it is, but there has been a credit given for it. Water-closets are to be grouped on one floor, and therefore debited. By reason of the added space inclosed in the building and the peculiarity of the extension at the southern end of the lot, which we have seen to be economical if put in, however, the walls are longer and there is a credit made therefor of \$15,720. In the same way there is a credit on account of the additional angles.

The question of height is one that can be left, as it enters into the cube of the building, it being optional for the architect or owner to determine whether to put in additional stories in the additional height or to effect a saving in the cost. The additional hall area in the plan, as it should be, requires additional mosaic work, and a credit is given by reason thereof. In the same way the saving by omitting the toilets on each floor give rise to a debit item.

These various amounts added and deducted one from the other leave a net debit of \$95,332 as a consequence of the method of planning, further illustrating the desirability of a very complete study of the true cost of the various methods of planning to determine which will give the best results.



THE DEVELOPMENT OF ARCHITECTURE.*



IN order to understand thoroughly the history of architecture and also why architecture has always been changing with the result that "styles" have been evolved one from another, the student must comprehend clearly the process or method by which any work of architecture is produced. Let us illustrate the matter by contrast: A landscape painter, for instance, whenever he begins to work, turns his attention to Nature. He proceeds to forest, field or mountain for "material" for his canvas, and, though his imagination may afterwards rearrange and, as it were, "compose" with the forms and colors he has perceived there, Nature is the original upon which his attention is persistently fixed. He may paint a hundred pictures but each one will involve, in some measure at least, a new and direct reference to the world without him. So with sculpture. The artist may have his ideals, indeed, to be

the artist he must have his ideals, but these ideals will ever be expressed in the language of natural forms. For the architect, however, about to begin work, what "nature" is there for him to have recourse to? Where must he turn for the language in which to express his ideals? He is not born with it. It must be learned, and as with his mother-tongue, he has to acquire it from those around him who already speak it and from what we may call the Book of Architecture—that is to say, existing architectural monuments, the work of his predecessors and contemporaries. Each—painter, sculptor, architect alike—is a copier plus the additions he himself may make to his copy; but with this important difference—the material or language given to painter and sculptor is practically fixed, and though they must refer repeatedly to it, yet at any particular moment the combinations which it is possible for them to make of this material or language are unlimited; whereas, in the case of the architect, his material or language is not fixed, but the possible combinations permitted to him at any moment are comparatively limited; the limitations being the pur-

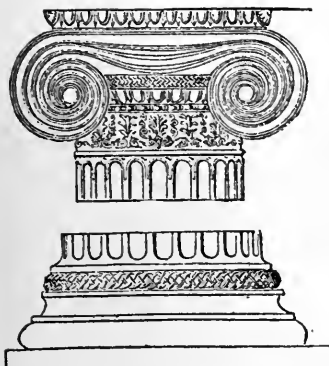
* Being the second chapter of the "Alphabet of Architecture" for Students) commenced in Vol. III., No. 1.

poses, the necessary form, the materials, etc., of the building. Whereas, we may say, Nature is surrounded by a fluid changing medium, is infinitely varied, infinitely suggestive, forever presenting new phases to the artist, Architecture at any given moment is somewhat rigid, traditional, circumscribed. The Architect has to enlarge the boundary for his work step by step, but the Painter, except in the matter of technical processes, is always in possession of the whole field of his art. Consequently, although PAINTING as an art is more fixed than ARCHITECTURE, the *Painter* is far freer, much less trammelled, has a vastly wider scope for choice and effort than the *Architect*. Indeed, and this is the point of our remarks, Architecture, to a great degree, *moves through a series of copies*, from one state to another, from one form to another, from one style to another. Each new effort in architecture involves not as in painting, a fresh reference to Nature or to a fixed original, but *in large measure* a copying or reproduction of work already done, which in turn is a copy of a pre-existent work, founded upon previous work, and so on in a chain backward. This process is illustrated by the accompanying engravings of a number of capitals selected from different buildings erected at different periods. The student will readily perceive the similarities in the series—the general identity underlying all the variations. (Plates XVI., XVII. and XVIII.)

We may say, therefore, that through all effort in architecture there runs a strong hereditary principle, a tendency to preserve or perpetuate what already exists, and clearly, if this tendency were completely dominant, architecture would be stationary; each generation would reproduce exactly the work of its predecessors. There would then be no "styles." But, in every work of architecture not only does the tendency to perpetuate "what is" operate, but there is also active a tendency to vary, to modify, to depart from it. Every new effort involves, must involve, change, because man and his surroundings—the world within him and the world without him—are

ever changing. The modification in any particular case may be very slight but it exists, and as any single change always produces a multiplicity of changes, any modification, no matter how insignificant, assists in the production of further difference until (just as the slightest deflection in two lines originally parallel results if they be continued in the widest divergence), marked dissimilarities are observable, and these dissimilarities becoming distinctly separative give us, as we have seen, "styles." Any piece of architecture, then, is at once a copy of previous architecture and a departure from it, and a "style," of which so much has now been said, may be defined as a collection of all the works of architecture which resemble each other more than they differ from each other.

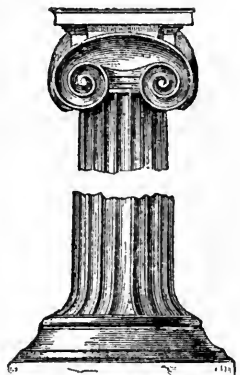
We must now consider what it is that produces VARIATION. The causes that bring about change in architecture are many; indeed, we cannot say they are less than all the multitude of influences which make one generation of men differ from another, one race differ from another, the Modern Man differ from the Man of Antiquity. Architecture we have seen is a revelation or expression of the mind of man through Building, and clearly everything that affects the mind affects the products of the mind. This is the reason why a style or any particular piece of architecture can be understood only in proportion to our understanding of and sympathy with the civilization of which it is a part, and why as we proceed we shall have so much to say which really belongs to "History" in the ordinary meaning of the word. For instance, a student unacquainted with the Christian religion and its history could not penetrate very far into understanding of one of the great European cathedrals. Indeed, for full interpretation of the structure he would need also the assistance of knowledge of mediæval civilization, and, perhaps, he could not get along without some familiarity with the local history of the city or diocese in which the building under examination stands. Even more than this: the shape of the stones in the edifice, the position they occupy, the form and di-



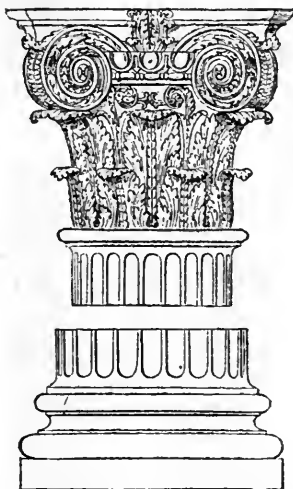
Ionic capital in Erechtheum at Athens.
Greek style, B. C. Vth century.



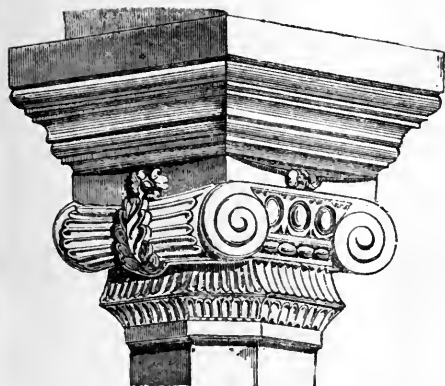
Enamel lotus palmette amulet, Owens
College, Manchester. Original type
of the Greek anthemion; dated
about 3000 B. C.



Ionic capital in Temple of Apollo
at Bassae. Greek style, B. C.
Vth century.



Capital of composite order. Roman
style, used prior to Christian era.

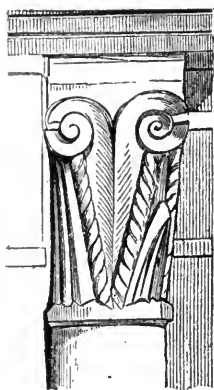


Capital in crypt, Saint Germain, Auxerre, France.
Romanesque style.

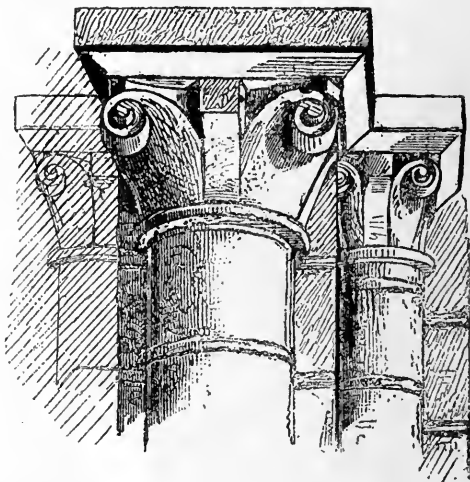


Capital in the Baptistery of St. John's, Poitiers, France.
Romanesque style.

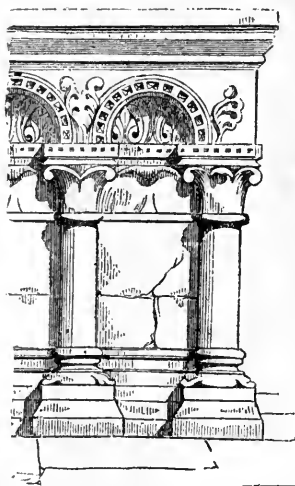
PLATE XVI.—The reader will observe in the examples above (and in plates XVII. and XVIII.) the *persistence* of certain forms amid variations extending in time from B. C. 3000 to A. D. 1200—4,200 years. The *persistence* and the *variation*, observable in the case of the Ionic form of capital, may be seen in all other architectural forms.



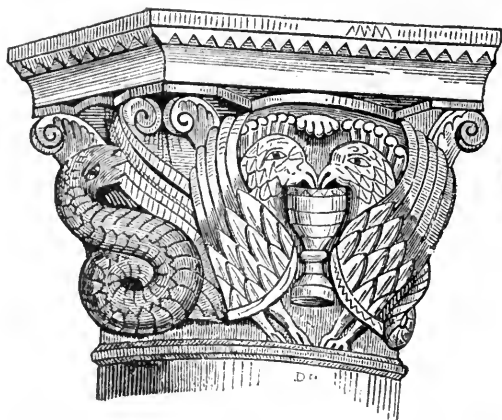
Capital in church (La Couture),
Mans, France. Xth century.
Romanesque.



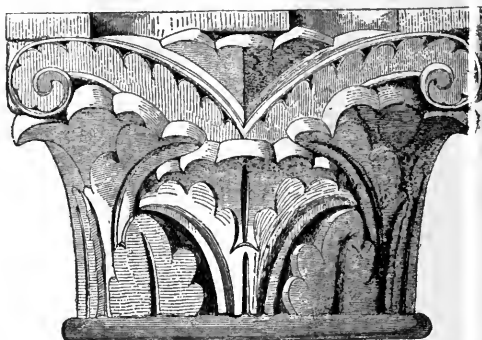
Romanesque capital. Common in XIth century.



Capitals at St. Germer, near Gournay, France. Romanesque style XIth century.



Romanesque capital of XIth century in the nave of the Cathedral,
Mans, France.



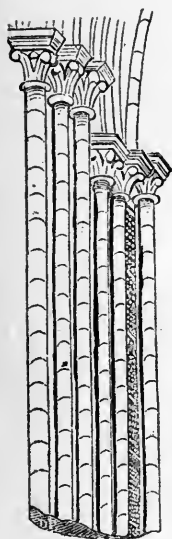
Late Romanesque capital. In the Museum at Mans,
France.



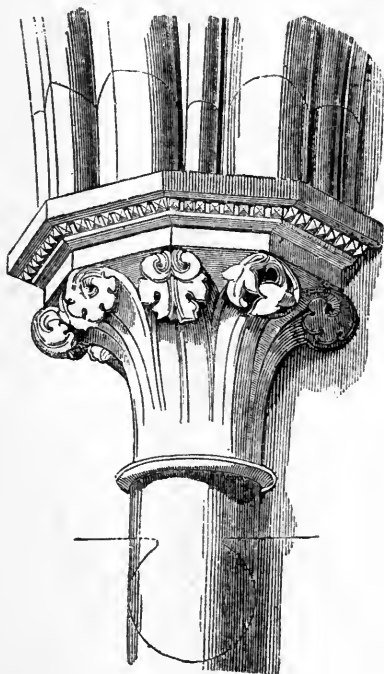
Gothic capital in Cathedral of Paris. (From Charles Herbert Moore's "Gothic Architecture.")



Gothic capital. XIIIth century.



Gothic capitals.
XIIIth century.



Gothic capital. XIIIth century.



Gothic capital. XIIIth century.

mensions of the building itself, the shape of each moulding, pier, column, arch, all have a history. Each one of these matters has been determined by conditions very many of which we may thoroughly understand. These are subjects for the student to investigate, and he will find he has to travel in many directions and often to great distances for complete information. But it is well to remember that no matter how far analysis is pushed it cannot be sufficiently subtle or penetrative to disclose all the factors that operate to make a given work of architecture *precisely* what it is. We can as it were pull a piece of architecture to pieces, and understand and describe these elements, but why they were put together in *exactly* the order and grouping in which we find them is not so easy to explain.

There are several factors which exert a very powerful effect in the development of architecture; and, of course, any change in these produces variation. The first of them is MATERIAL. Clearly the work of an architect is very forcibly conditioned or directed by the nature and abundance of the materials at his disposition. Wherever stone is plentiful, as for instance in Egypt and Greece,* we find stone buildings, and in a forest country, of which Norway is an example, timber is used. In the absence or the scarcity of both of these materials their place may be supplied by bricks, as was the case in Mesopotamia, or by mud plastered on rushes, or by tents as we see among desert tribes, or even by snow as in Greenland. Wherever man builds he is naturally led to employ the material at hand which is most abundant and most easily procured. Now, it is true, material is only the dead matter of building, and it may be asked: how is it related to architecture? but it is also true that material has an immensely powerful influence upon the form in which the living spirit of the architect shall embody itself. For, as the architect is led by the circumstances of his position to adopt one material rather than another, so will he be induced by the character

of the material he uses to express himself in one manner rather than in another. We may say that the *genius* of the material will influence him and direct him. For example, forms easily worked in wood are difficult if not impossible to fashion in stone; a severe, massive style of architecture is almost necessitated in a region where stone is very hard, carved with difficulty (as granite), and on the whole more easily procurable in large pieces than in small. The Gothic style which, as developed in the great cathedrals, needs a mobile material, would be impossible in brick, and the free fantastic shapes given to many Norwegian buildings (see page 85, vol. III., No. 1) would undergo, we may be sure, rapid modification were any people to undertake to imitate them in stone. A great deal might be said on this point, but the foregoing is sufficient for the present to make clear the influence that material has upon architecture; and the student will readily perceive that as most architectural forms in the course of their history have frequently migrated, in some instances, from Egypt to Greece, from Greece to Rome, from Rome to all parts of Europe, from Europe to America, crossing and intercrossing, they have again and again been subjected to the modifying effect of MATERIAL.

Another factor of importance in the development of architecture and in the production of variation is MECHANICAL SKILL, with which we may include the character of building tools and the physical force at the command of the architect. Illustrations of this are scarcely necessary. It is obvious that the magnitude, intricacy, character of the architect's work will be conditioned by the means at his disposal for its execution. Increase in his resources, or improvement in the skill at his command, prompt his invention and enterprise to higher flights, whereas crude skill and limited resources cramp and dwarf his efforts. Architectural forms in passing from well-trained to clumsy fingers become coarsened and debased, and of course any change in the contrary direction produces variation of an

* See pages 35, 36, 85 and 86, ARCHITECTURAL RECORD, Vol. III., No. 1.

opposite kind. Change one way or the other may be slight or may be revolutionary, but, when we remember that each variation becomes the basis of future work, we can see what great divergences may ultimately result from modifications arising from the source we are speaking of.

CLIMATE is another important factor in determining the character of architecture and in producing variation. In northern climates we need much window space for light, as well as high sloping roofs to shed rain or snow. Due to these circumstances architecture has a very different character in temperate latitudes from what obtains in southern countries where sunlight is excluded from habitations almost as an enemy and where flat roofs are most suitable to climatic conditions. By and by we shall show how differently Gothic architecture was developed in Italy and in northern France—partly due to dissimilarity of climate. We all know how in time, in order to meet changed climatic conditions, the Dutch and English colonists in America modified the buildings they had copied from those they left behind in the old country. These alterations, in the form of Colonial structures, led to modification of the artistic expression of the buildings. Indeed, artistic expression is very closely related to structural form, and changes in the latter are very fruitful of changes in the former. For this reason we must add one more factor to the list of those that produce variation in architecture—which is CHANGE IN THE PURPOSE OR USES OF BUILDING. The first public places of worship used by the Christians in Rome were the Basilicas or Marts and Halls of Justice. Conversion of these buildings from one use to another was quickly followed by change of form, structural and artistic; step by step the Christian cathedral was evolved from what was originally a secular and Pagan edifice.*

The chief causes of variation in architecture, then, are (in addition to those more general influences which

affect the human mind) changes in (1) material, (2) tools, including the technical skill and the industrial force at the architect's command, (3) climate, (4) the purposes or uses which buildings serve.

The next question for us to consider is: At what point shall we begin our history of architecture. If we ascend the stream of Time, from the Modern era to the Mediæval era, thence to the Classical era (Rome and Greece) we reach a point at which another step backward brings us into the midst of

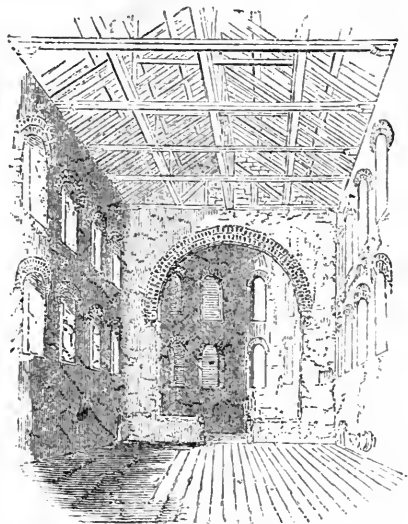


FIG. 10.—Interior view, Basilica, at Trèves.

a number of ancient civilizations. There is the civilization of Phrygia, of Lydia, Caria, Lycia, peoples who inhabited Asia Minor, there is that of Phœnicia and its dependencies, that of Assyria and Babylonia, and that of Egypt. With the two last named we reach the *historic limit*. Our course up the stream (to continue our simile) here passes into mist and obscurity, which we at this moment are unable to penetrate.

When at the furthestmost boundary of history, we look around us, however, it is perfectly clear that we are still a long way off from the beginnings of architecture. The earliest architectural remains discovered in the Mesopotamian Valley, and the still

* See ARCHITECTURAL RECORD, Vol. II., No. 1, pages 65 and 66.

earlier ruins and fragments in Egypt indicate that architecture must have had a long history in those countries before it attained to the developed state in which we find it first. In Egypt, architecture emerges into sight some 5,000 years before Christ. It is then in possession of vast resources which it employs readily and masterfully in a way betokening long practice. We find it has already created a great mass of material—architectural forms and ideas—from which, by means of reproduction and variation, it might work along to new developments. It had also learned to conventionalize natural forms (a matter of which we shall speak by and by).

Of the development of architecture in Egypt and Chaldea during prehistoric times we can say nothing save this, that it must have followed the same course and been directed by the same factors as in historic days. One generation must have copied and modified (under the influences we have already described) the works of its predecessors, and no doubt if the evidences were open to us we could trace Egyptian or Chaldean architecture from the state in which either emerges into "history" step by step backward, perhaps, through other lands and other peoples utterly unknown to us to those primitive beginnings which are exemplified in the art of savage races of the present day and in the remains which archæologists have discovered in drift and cave of the nascent civilization of the Stone Age

which seems to have prevailed at one time over the greater part of the world.

The primitive developments of architecture do not lie within the historic horizon. The most ancient monuments in the world—those remaining in Egypt—do not furnish us with any indications of them. To search for these "beginnings" we must join hands with the anthropologist and the ethnologist, and passing the limits of the earliest dates of historic civilization enter that remote, indefinite age when man was unacquainted with the metals and fashioned his implements of stone and bronze. This age is divided into three great divisions: (1) The Palæolithic (ancient stone) period, when men made their tools of rough stone; (2) the Neolithic (new or later stone) period, when men made their tools of polished or smoothed stone; (3) the Bronze period, when men had made the first discovery in the metallic arts and fashioned their implements of bronze. With the last of these steps we may undoubtedly date the first great stride forward of the human race, but it is not to be supposed that the earliest developments of the Bronze age were unconnected with those of the ages that preceded it.

The first traces we discover of man, fragmentary, scattered indications they are, reveal him to us as an artist. We find him decorating his flint spear-heads and arrow-heads, carving his stone axes and horn daggers, and delineating upon the walls of his cave-dwellings often very faithful and vivid

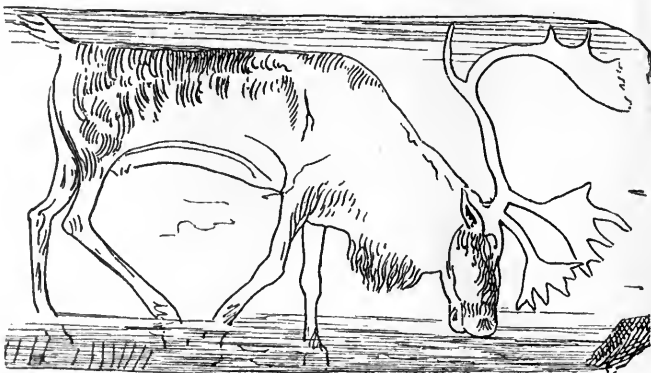


FIG. 11.—Prehistoric drawing from ancient cave dwelling (cave of Thayingen).

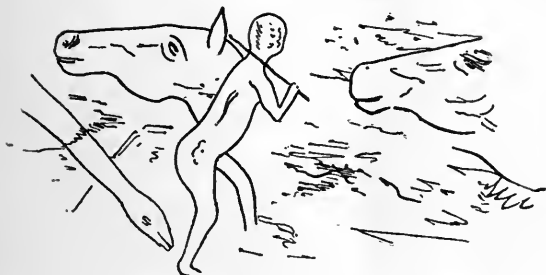


FIG. 12.—Prehistoric drawing from ancient cave (La Madelaine).



FIG. 13.—Dagger of flint, with ornamented zigzag lines, Denmark (Pitt-Rivers collection).

pictures of animals and other objects that were part of his daily life. Although the evidence we have warrants the belief that man has always had some æsthetic sensibility and an appreciation of decorative effects which led him to attempt ornamentation, his creative faculty has not ever been as ready as it is to-day. He is now pre-eminently a "maker," a quick-witted producer of the multitudinous articles he needs. But, in primitive times, he derived from Nature almost completely ready-made the few rude implements and other belongings that he was possessed of. A pointed stick served for spear, a knobbed root stump was used as a club, chips of flint did for arrow-heads, and small curved bones, with the addition of a little fashioning, for fish-hooks. Nature was, in a very close and immediate sense, his instructor. She suggested directly to him and in large measure furnished him with satisfaction of his wants. Now, in like manner we may say Nature gave man his first lessons in art. In this way: Everybody has met with accidental resemblances to living things in pieces of stone, wood, bone, etc. The possibility and scope of these chance likenesses is really very great, particularly to a childish mind, which primitive man's was. A few indentations in an elongated piece of stone, an accidental configuration of a bone in some animal captured, the outline of a shell found on the sea-shore, the natural

formation of tree branch or gnarled root were sufficient, at first, to (1) *represent*, and later, when the eye had become better educated and demanded stricter similitude to (2) *suggest* perhaps the



FIG. 14.—Mandrake root in human shape (partly carved).



FIG. 15.—Dagger of reindeer horn (form adapted).

human figure, or some animal, or some parts thereof. The stimulus of suggestion played an important part in man's education in art, for it resulted in his

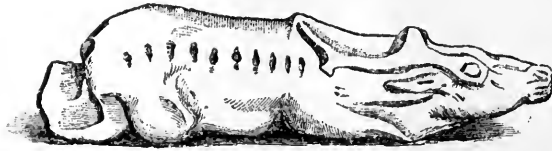


FIG. 16.—Prehistoric sculpture. Reindeer in bone (natural resemblance adapted).

perceiving that the addition of a few obvious lines or touches to the image-like object, whatever it was, increased resemblance. These supplied, man became an *adapter* of nature-suggested effects, and once possessed of the *idea of representation*, he advanced easily to the next step or degree in his artistic education, *viz.*, complete imitation or creation.

The *idea of decoration* was obtained in a manner similar to the foregoing. Upon weapon or utensil, got direct from nature, or by crude process of manufacture, there would occur from time to time chance peculiarities, forming a sort of rudimentary ornamentation which would not pass observation. These lines, marks, notches, etc., appealed to the eye as curious, or were seized upon to serve as distinctive indications of ownership. Appreciation of these effects prompted primitive man to enhance them by additions of his own, and then to copy or reproduce them entirely.

The probable steps, then, of man's early education in art were:

1. APPRECIATION of Nature-given or chance-produced resemblances and decorative effects.

2. ADAPTATION and extension of those resemblances and effects.

3. DIRECT IMITATION and CREATION.

The last of these stages was reached by man in the Cave Period—that is, long before the beginning of our earliest civilization. The illustrations we have given show that at that remote day he possessed a keenly perceptive eye for natural forms and a trained hand, indicating long practice. The art of that period was “realistic”—that is, the effort of the artist was directed entirely to the production of an exact faithful copy of what he saw in the world around him, without any conscious addition of his own. It is most probable, indeed, that in the beginning

all art was realistic—an imitation of natural sounds, effects and forms.

But, the art-forms in architecture are not realistic. They consist of patterns and conventional forms. They are only broadly indicative of a living original. The full details are omitted; only the outline, and in some cases, perhaps, the *character* of the thing copied are expressed, very much as one might represent from memory a flower, or foliage, or other natural thing of which one retained a vivid but not closely accurate image. There is good



FIG. 17.—Conventional pattern at top and (below it) conventional nature-forms.

reason for believing that very many of the (1) pattern ornaments and the (2) conventional nature-forms which constitute so large a portion of what may be called the decorative material of architecture have been derived from what were intended originally to be realistic representations of natural things. Let us start with the original realistic picture. In making it, the artist had his eye upon the object he desired to represent; and, of course, so long as he kept his eye upon it, and strove only to be a faithful transcriber, his copies, no matter how many he might make, would vary little from one another, and from

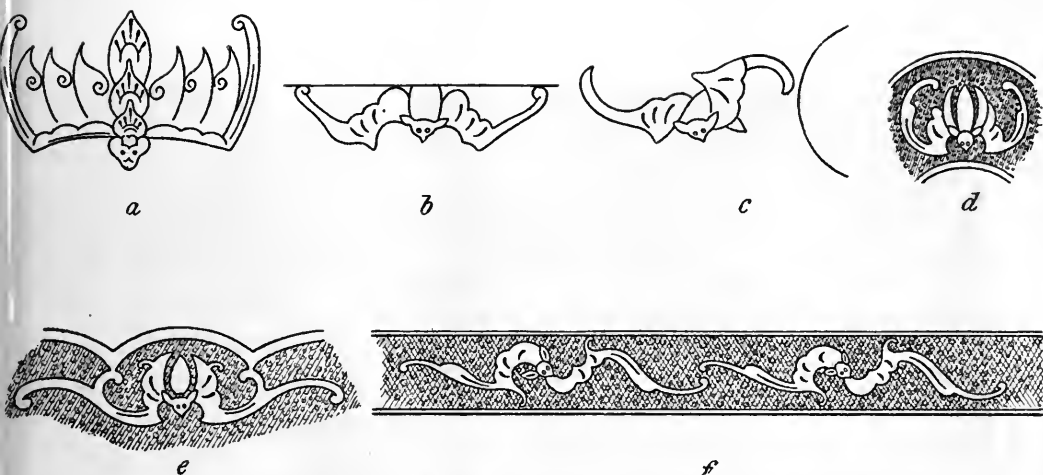


FIG. 18.—Conventional pattern. Chinese figures of Bats modified for decorative purposes.

the original only in proportion to his lack of skill, the inadequacy of his tools, etc. But, suppose after a time he should remove his attention from the object (as in fact we find he did), and begin to copy one of his own *copies*; and then that many other artists should come after him and that each of these, instead of going to Nature for a new beginning, should be content to take for his model the work of his predecessors or contemporaries, what would be the result? Keep in mind the fact that we should have a chain of copies, not a number of new references to nature, and then remember this other fact which has been shown (see illustration, page 140), that *to copy is to vary*, and it is not difficult to see the outcome. No two copies would be exactly alike. Every attempt at reproduction would introduce some modification. No two people would see the same thing quite alike, no two efforts would produce precisely the same result, and the tendency of a series of copies would be to produce DIVERSITY, even extreme diversity.

In efforts such as those outlined in

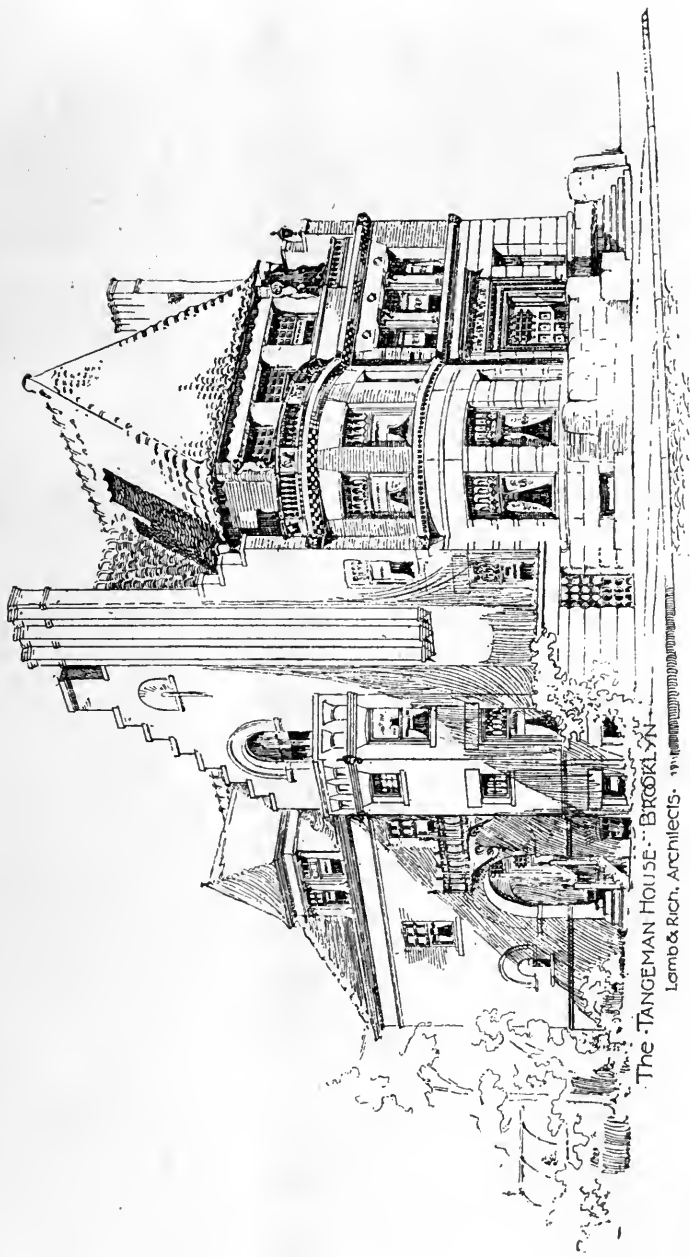
the foregoing architecture began, and at some time in that remote primitive period which has been indicated. Perhaps, as we have said, the discovery of bronze or some other favorable circumstance or condition favored the human race at two particular geographical points, the Nile valley and the Euphrates valley. There, at any rate, civilization made more rapid strides than elsewhere and, at a time when the remainder of the world was still in a condition of primitive barbarism, emerges to our view in a highly developed state. In Egypt and Chaldea history begins. There we obtain our first glimpse of historic architecture. From these two countries proceeded the influence of a civilization higher than any mankind had known so far, which in time was to be felt by the nations which subsequently flourished on the Mediterranean, producing results in culture and in art (the consummate flower of culture) which have passed over the whole world, which we of to-day still share, and the fullness of which will be gathered in only when the work of man is ended.

H. W. Desmond.



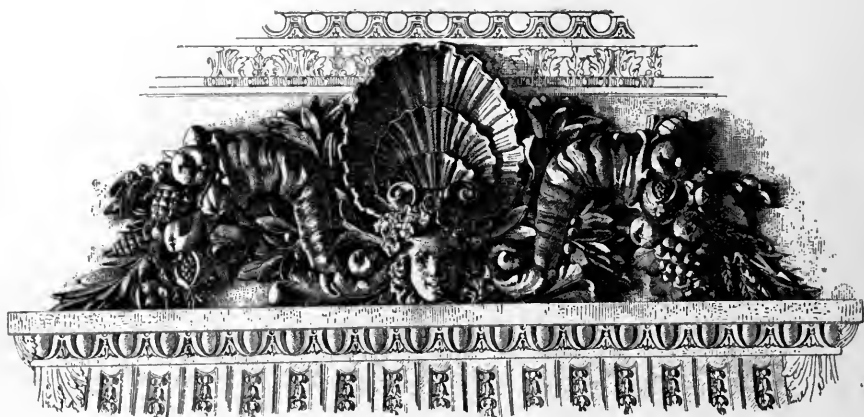
Chateau de Cheverny (Loir-et-Cher).

A. ANDERSON. STYLE LOUIS XIII.



The TANGEMAN HOUSE, BROOKLYN.

Lamb & Rich, Architects.



ARCHITECTS' HOUSES.



NOT the houses that architects live in but the houses that architects design, as distinguished from those that the builder designs — the difference, plain enough when once learned, is inconspicuous, even indistinguishable for the unenlightened generality.

Most people care little for the distinction between good and bad in design. When they build or buy houses they aim only at equaling or excelling the standard set by their neighbors; at doing the customary thing, approved by the divine majority, which we all worship. The "average man"—that democratic standard of perfection, toward which his superiors must bow, as his inferiors may aspire—the average man is quite satisfied if his house is provided with the fashionable crudities of the moment, the "rich carved work," the "beveled glass in front door," the "imitation shingle clapboards," and within, with the plush-seated "art furniture," the "old gold portières," the ribbon bedecked chairs, that have all been degraded into mere affectations, from the utilities that they were when they originated.

But there are a few, more than there once were, and there will be more still by and by, who begin to have ideas

about things; some have eaten of the tree of knowledge and can tell good from evil at a glance; others know indeed that there is a difference, but too often can but admire at the order of those whom they regard as prophets.

At the bottom of all the bad designs of the present day, and ninety-nine hundredths of all design at the present day is bad, notwithstanding the preachers of "art," at the bottom lies the dominant sentiment of the age which is inspired by deeper causes than we can now investigate, which is indeed ineradicable, save as the sentiment of the age shall gradually fade, and the sentiment of the coming age shall supervene. Without some understanding of the power of sentiment in controlling design, we shall in vain point out admirable qualities separately. Nothing but sympathy with the mind of the designer can tell us whether plainness is spontaneous and necessary, or out of place and affected, or whether richness is overloading or mere exuberance of fancy.

In the past, to revert briefly if it may be permitted to the past, the religious sentiment has dominated, a mingling of fear and wonder, and accordingly in all past times the temples of the prevailing religion have been the most notable monuments of architecture.

From the stolid slave temples of the

East and of Egypt, through the artificial splendors exacted by the free Roman from his enslaved tributaries, and along through the mediæval evolution, blossoming in the fair flowers of French cathedral-building ecstasy, when first the real meaning of the liberty wherewith Christ hath made us free dawned upon men, and Freedom for the second time smiled and beckoned us forward, it has been this overpowering feeling of fear of the unknown with wonder and admiration that has brought forth the glories of architecture in the past. Added to this have been other sentiments, such as we are gradually proving to ourselves are too costly to be indulged in, and are accordingly relinquishing with our commercial level heads—sentiments born chiefly of man's delight in having his own way, not yet schooled to the notion that others too must have their way, called domination, and re-

sulting in pride, lust of power, cruelty, envy, hatred and all uncharitableness.

While any such sentiments predominate, and they always have hitherto predominated, anything like pure art is impossible; the only sentiment that leads to pure art is the mere love of what is pleasing to the eye, limited by good sense, and a clear intellectual understanding of what is reasonable. Always have predominated, I said; always but once, that time when the unapproached Greek came, lived and vanished, wonder and delight of the nations thenceforth: that time was the first smile of Freedom; the second was in France for an even briefer period; the third we have not yet seen. For the Greek when he undertook to construct anything, from a plough handle to a Parthenon, there was nothing but a keen joy in the beautiful, joined to brains such as we have no conception of, brains which were to our brains, ac-



A Builder's Design.—Example of crude work.



A Builder's Design.—Example of crude work.

cording to a celebrated statement, as ours are to the African negroes; it is quite probable that the Greeks' pleasure in beauty as far excelled our own; that to them ugliness was as much more painful, to judge by the abortions with which we deliberately surround ourselves. Two or three specimens of such are shown on this and the preceding page, as "horrible examples" of what is to be avoided.

To-day there is a prevailing sentiment as powerful in its way as any sentiment of the past, the sentiment of ostentation. Ostentation is, indeed, not properly called a sentiment. What I mean is the sentiment that takes pleasure in making a show; call it perhaps the admiration of material prosperity, our old friend the lust of the



A Builder's Design.—Example of crude work.

world—*vanitas vanitatum*. Now this sentiment, blindly condemned by the moralist, is to the philosophically-minded simply a highly interesting fact. It means this, that men have turned from fear of a hypothetical



A Builder's Design.—Example of crude work.

future to an intelligent effort to make the best of a very actual present with all the intellectual development which that implies.

Material prosperity we have in our grasp ; some of us too little of it, some, by the blind hostility of nature, too much : it suffices that we have learned to bring out of the ground, all—more—far more—than the people of the past dreamed of in their Arabian Night fantasies.

So of course we admire the creation of our hands : for those who have not enough, it seems still more admirable, this material prosperity ; for them indeed, if they would ever have enough, it is essential that they should pretend to have, for to seem to be an accepted worshiper of the goddess of Plenty is a strong recommendation to those whom she really favors. Hence it is that we admire, not what is beautiful but what is "handsome," which means costly in the mind of him who uses it. Little do we care for proportion, harmony of parts, fitness, grace ; less still for simplicity, unobtrusiveness, straightforwardness, these last indeed we distinctly reject, they are quite out of our line. What we want is something "handsome," something that will "lay over anything on the avenue," something that will attest our successful worship at the shrine of Plenty and certify it to the world at large. I sympathize much I must confess with those who take this view of it.

Yet a time will come when our brains will develop still further, when, having invented methods of producing abundance, we shall beyond that learn how to fit the dinner to the appetite so that none shall suffer by painful disproportion in either. Then, with brains as good or better than the brains of the Greeks, with a sense of beauty fostered by leisure to enjoy beauty, with the great fear of the unknown powers of nature finally abolished, with spontaneity, individuality, nonconformity, admired, in preference to conventionality, custom and conformity, we shall again be able to build for beauty only under the light of liberty ; for these things shall be the result, not of any coming slavery, but of the coming

knowledge of perfect liberty, when Freedom, full grown, shall not smile and fly away, but shall come to make her home with us and teach us to know, for the first time in the history of the world, her real power.

Meanwhile a compromise is effected. Ostentation there must be, it is a necessity of business, that is of life. It is as essential as that our wife should have reasonably costly clothes with reasonably puffy sleeves, or such other whim of the moment in a degree as shall testify that we are able to occasionally indulge in new clothes. So must our house testify that our business is fairly prosperous ; indicate if possible that we could, if we wanted to, do things even more lavishly. Still, it is not necessary to be ostentatious offensively, not very offensively at least. We may permit ourselves some regard for beautiful things, especially where they are not too inexpensive, or at least do not seem inexpensive ; and where such commercially undesirable factors as simplicity, marked individuality, and so on, are not too prominent.

To what end is all this talk about sentiments and virtues ? To a very practical end indeed, to enable you really to judge whether any architectural work, or the work of any other art for that matter, is really admirable, regardless of the cries of style-mongers and technique-worshippers.

There are two ways to learn what is good in art : One is to live with people who know, to go about with them and let them point out which objects to admire, from which to withhold admiration ; the other is to grasp the principles of criticism ourselves, so as to be able to judge for ourselves. Now the first question of real criticism in all art, whether constructive, or such as music, drama, and the dance, is to ask : Has this been done most judiciously to serve its purpose, and with the simple intention of being as beautiful as possible ? The second question may ask with how much skill it has been done ? That is where technique comes in—not first, but afterward.

Thus, if you see a man's front door made of oak, while the side door is painted pine, the discrepancy at once

announces that oak is not used because it is stronger, it may be used properly for the beauty of the wood only, but hardly if the pine side door is in sight ; it would make the ostentation too conspicuous. After the artistic possibility of oak at all is settled we may take up the question of whether the carving is coarse and clumsy or delicate and graceful, whether the mouldings are intelligible or obscure, whether the paneling is becoming, whether the whole thing is well or ill done.

The same principle underlies the very first judgment that can be made of the house as a whole. Is it straightforward and sincere in sentiment? Has it been built primarily to satisfy certain needs in the most rational way? Secondly, has it been arranged, proportioned and adorned to gratify the inborn pleasure in beauty of any kind? Finally, and only then, need we ask: Has it been skilfully done? Ninety-nine times out of a hundred—yes, a hundred times out of a hundred—to the first question we must answer, no. Pretence is so necessary to existence in the present commercial period that even those whose nature is little disposed to it are unconsciously infused with its spirit.

But letting that go, glossing over the inevitable flavor of pretentiousness, condemning only where too odiously

conspicuous, tolerating it where it must be tolerated, the second question comes up. Has it been built rationally to accomplish its object? For the most part to this we can heartily say, yes. The spirit of the age, forbidding sincerity of purpose, forbids equally indirectness or illogicality in the attainment of ends.

These two settled, the simpler question, for ordinary criticism the only question arises. Has it been done to gratify the sense of beauty? How little is done even with the intention of being beautiful appears in the very word most commonly used to express æsthetic approval—the word “handsome.” “He lived in a handsome house, with a handsome stoop and a handsome piazza, very handsomely furnished.” The picture leaps to the eye of the listener. But if we say “he lived in a beautiful house, gray and weather-beaten, plainly almost baldly furnished with extremely beautiful tables and chairs,” most people would laugh outright. So essentially associated with beauty in the popular mind are the ideas of superfluity and costliness.

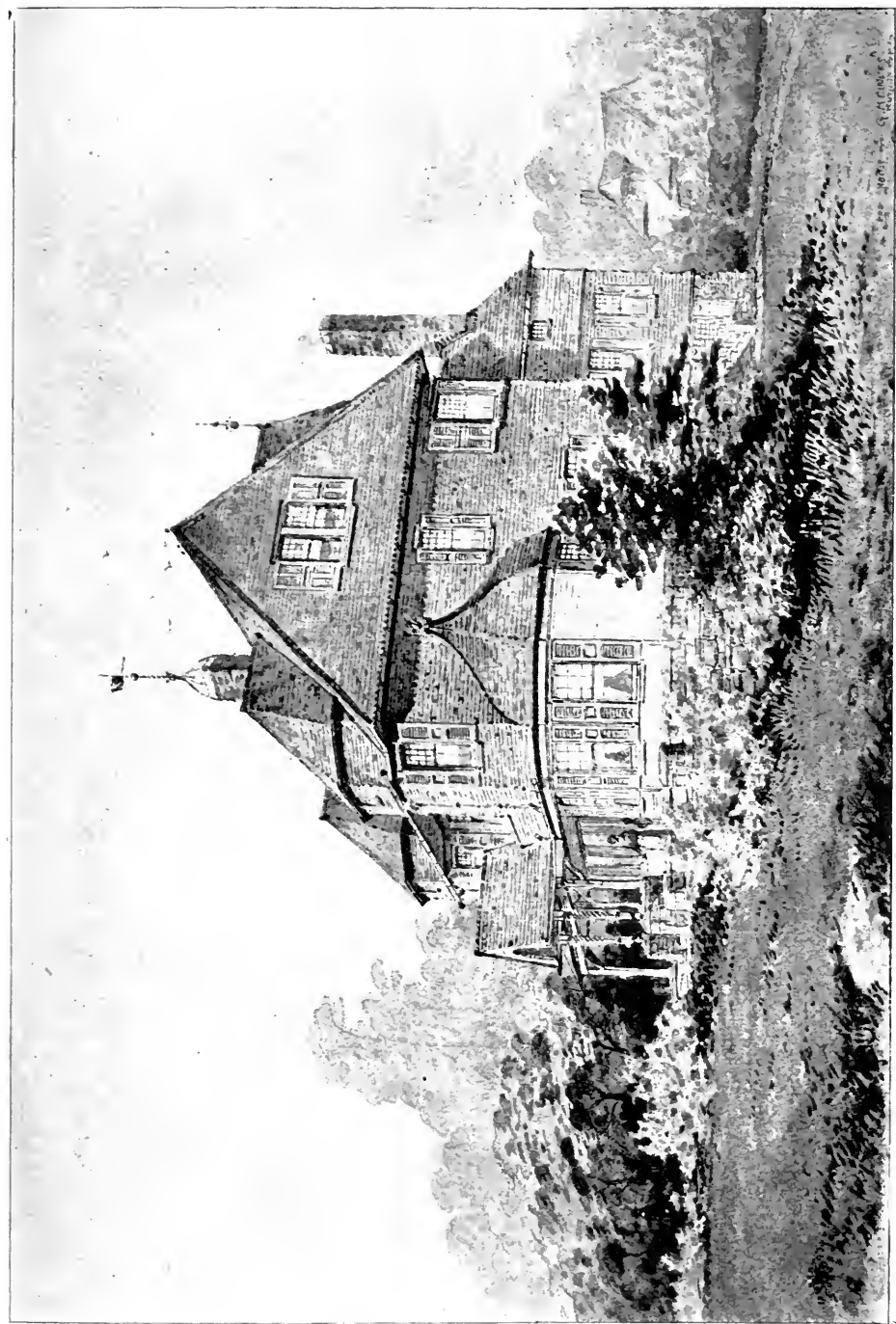
Yet to judge aright we must judge apart from these considerations.

“A good house,” in the designer’s phrase, is judged to be so, in a de-



RESIDENCE.

Designed by H. S. Ihnen, Architect.



Rutherford, N. J.

RESIDENCE.

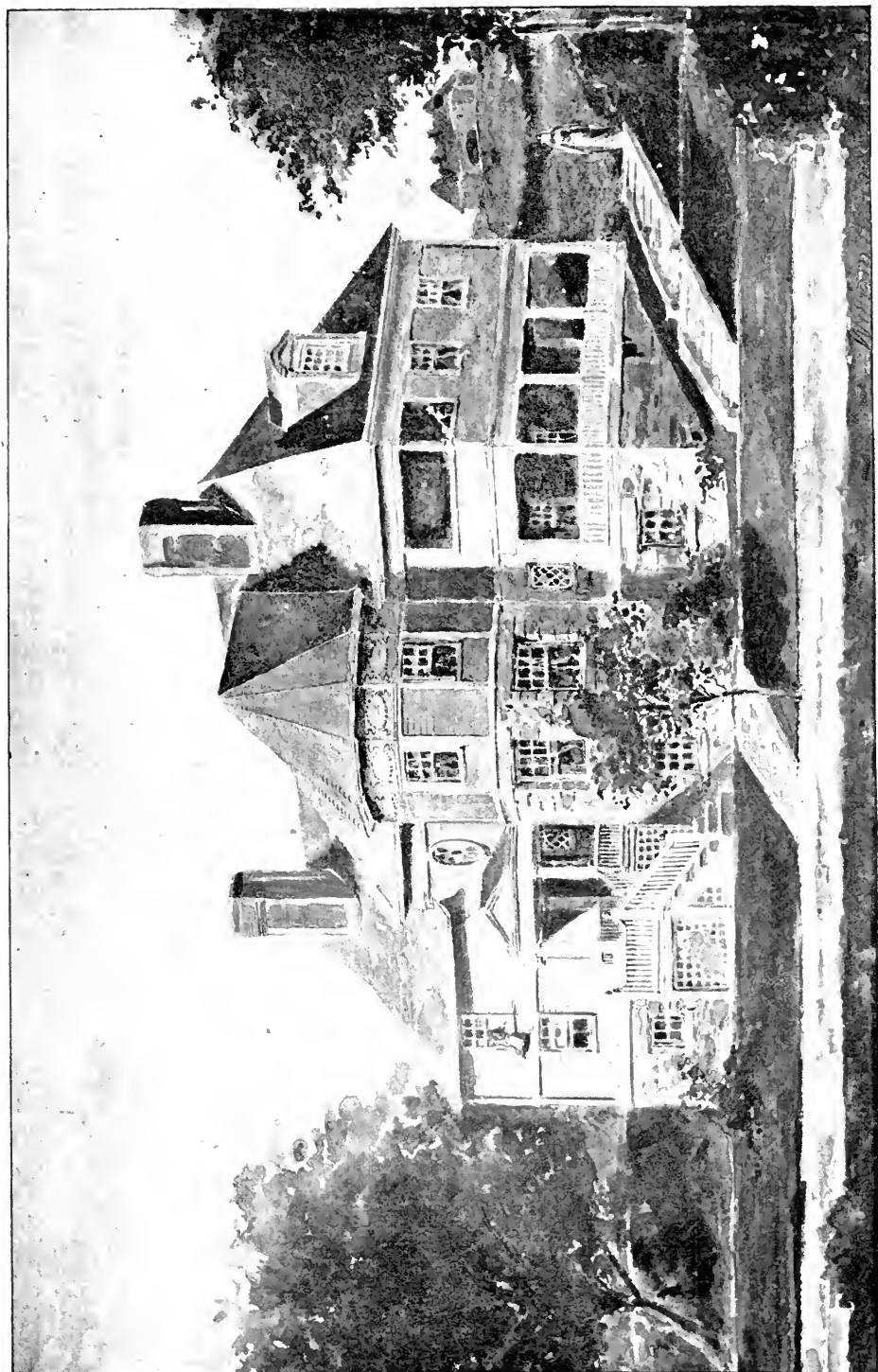
H. S. Innes, Architect.



Ridgefield, N. J.

SOUTHWEST VIEW OF HAWKNEST.

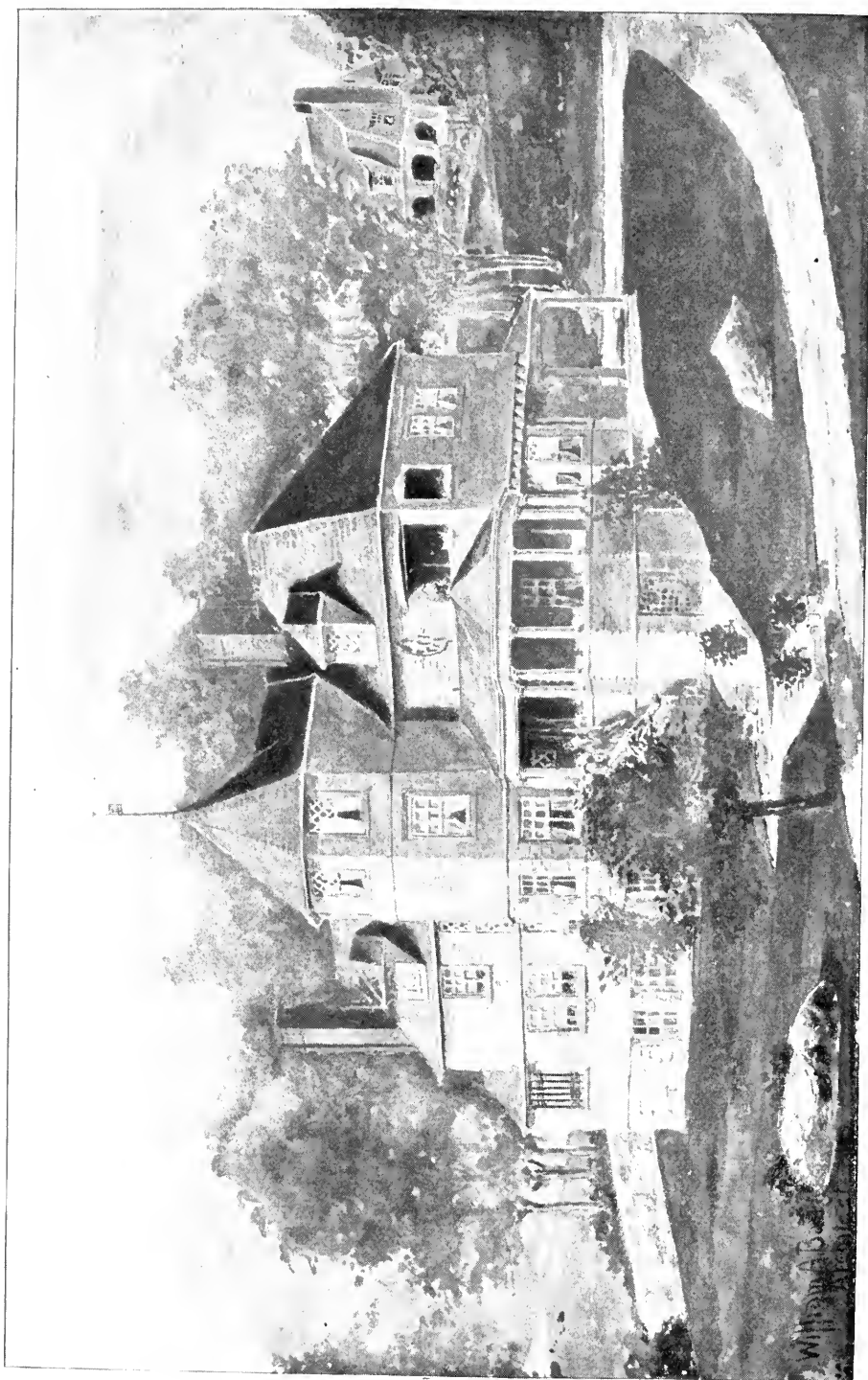
William A. Bates, Architect.



Lawrence Park.

COTTAGE.

William A. Bates, Architect.



LAWRENCE T. ALLEN.

RESIDENCE.

William A. Bates, Architect.



Morristown, N. J.

RESIDENCE.

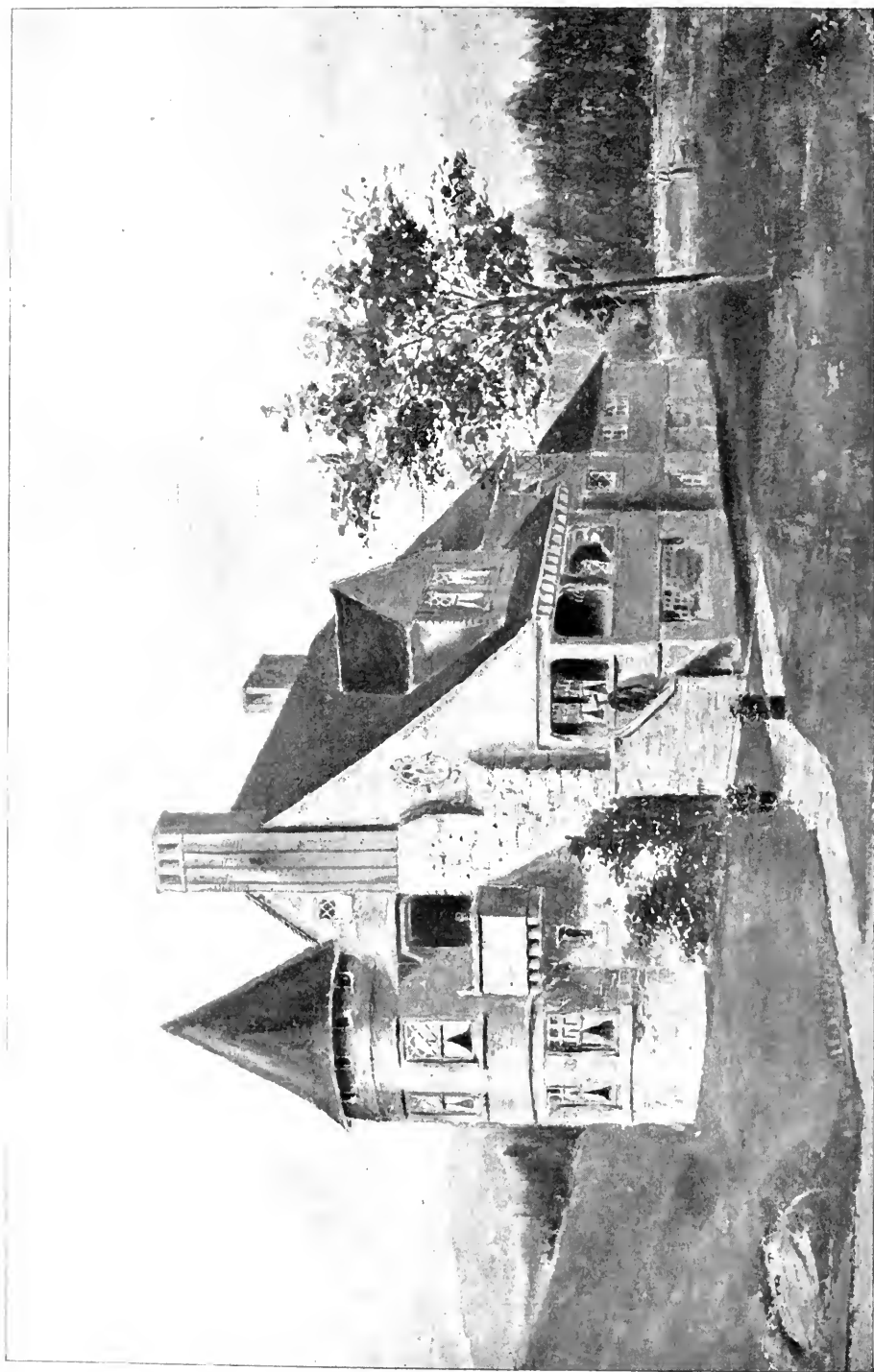
Charles Alling Gifford, Architect.



Morristown, N. J.

RESIDENCE.

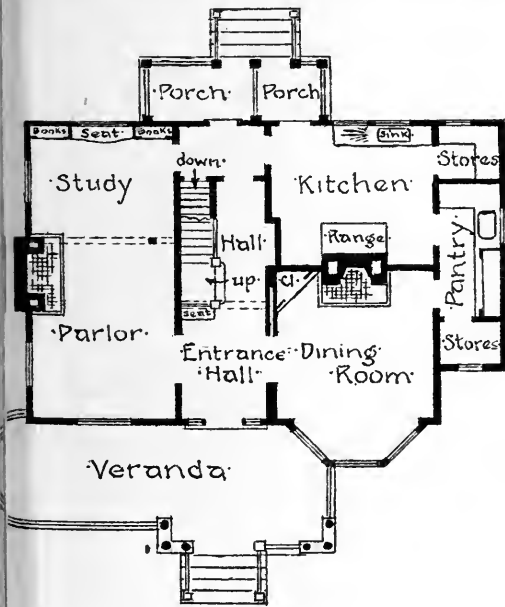
Charles Alling Gifford, Architect.



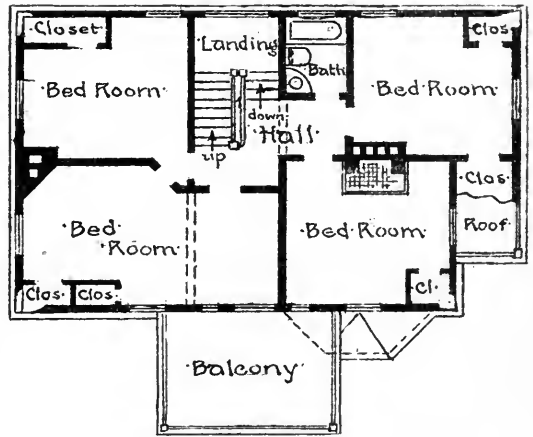
Lawrence Park.

COTTAGE.

William A. Bates, Architect.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



A GOOD INTERIOR.

Designed by Rossiter & Wright, Architects.

signer's eyes at a glance. It is hard to convey this artistic sense without personal association and numerous examples. It is a sense, however, that is as easily cultivated as any other perception; cultivable, too, in the same way by exercising it, and in no other way for that matter.

Take the design on page 192, by H. S. Ihnen, where a perfectly straightforward gable-ended house has quaintness and interest added by the single tall dormer, with another little one straddling the ridge above; or design on page 193, by the same architect, seeking unity in the twin bays, carried up above the roof; notice in this how the heavy overhang of the gable carries around the line of the roof over the front balcony. Or, in bigger things, take the large house on page 194, by W. A. Bates, with its good roof grouping and good adaptation to the site. That by Charles Alling Gifford, too, another twin motive, rather weakened by the third gable at the end but very quiet and pleasant on the whole, a so-called Colonial design, and more strictly suited to ancient notions than the picturesque modifications of Colonial methods by William A. Bates. Two or three others I add, all of which might be commented upon but are here adduced simply as specimens of more good things of their various sorts.

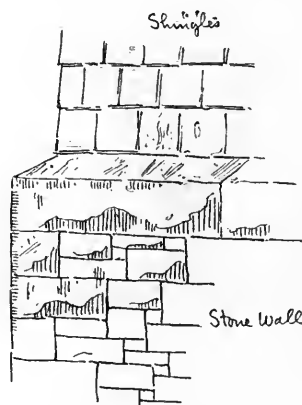
Now this capacity of making a good design is the essential characteristic of the architect. There are, of course, differences in natural gifts or acquired skill among architects; but it may be broadly said of them that they all know a good thing when they see it, and that they are all anxious to do as good a thing in design as circumstances permit.

The builder, on the other hand, does not know a good design, and never by any chance builds a building of good design. The reason is this simply, that the essentials of a good design, proportion, simplicity, refinement, are not at all what the builder wants. Proportion is to him as naught. Simplicity?—far be it from him! what he wants is elaboration, or the seeming of it. Refinement?—it is too expensive, coarseness will do just as well and

comes cheaper; besides nobody will know, or perhaps most will even prefer the crude, cheap pretentiousness of the builder's house.

But for the illuminati who do know a thing or two about decent design it is well to remember that all the efforts of the architect are directed to this one thing. From the foundation stone up all must conduce, and in the architect's conception does conduce toward a harmonious whole. "I will arrange the inside myself," says one, "and get an architect to put a handsome outside to it." Or, says the other, "I will have the plan made by an architect but a perfectly plain outside will do for me." Neither is possible. The architect worthy of the name conceives his building as a whole, outside and inside mass and arrangement are one; and every detail of decoration, both of outside and inside, is but the natural working out of the same original conception.

In most buildings, for an example of what I mean, the cellar walls are thicker than the upper walls and the extra thickness is on the inside. In a certain case, however, the architect may wish to have the extra thickness on the outside, from considerations of construction as well as appearance, as shown, which makes a material constructive modification from the very outset, as shown in the sketch.



Foundation wall projecting beyond outside face of wall above.

Whether in making or judging a design the architect is influenced chiefly by instinctive feeling. Criticism may follow to interpret or defend opinion, but in forming the opinion, and more especially in originating a design, instinct predominates. Indeed, almost everything that requires training of eye or hand must be done by instinct if it is to be well done, whether piano-playing or bicycling or painting, so that to render in words an idea of what is really only got by doing is like teaching swimming from a text-book.

The very first lesson to be learned in judging a design is this oneness of conception of which we have spoken, as prominent in the work of the designer. No matter how many parts there are they must subordinate themselves in some way so as to make to the eye one thing or one group of things. This oneness is got in various ways, all be in essence the proportioning of parts so that certain ones shall predominate and certain others remain unaccentuated. Of a group of gables, one may be larger than the rest, the others of well-proportioned lesser sizes, or a succession of equal sized features may carry this impression of unity.

The value of the roof artistically is largely in its power of giving unity to the design, especially if it be a high-pitched roof, always a favorite with artists.

The roofs of the minor parts fall so naturally into subordination to the main roof, the dormers and other incidents so easily enrich without encumbering, that a design with a high-pitched roof contains some of the first elements of success. The cornice of a flat roofed building, absurd as it usually is constructively, seems to owe much of its beauty to its power of giving unity; it is like the frame to an easel painting or the embroidered border to the skirt, indicating at a glance the boundaries of the object. But a group of corniced buildings or portions of one building do not fall so readily, and as it were inevitably, into subordination, so that a corniced design always suggests boxiness rather than picturesqueness. Invaluable for giving unity to a design is the tower, unjustifiable though a tower usu-

ally is to the mind as serving any purpose, save to "exist beautifully," like a Greek column. Yet, though logically uncalled for, who can be insensible to the value of the tower. An example of the use of towers to give unity is shown in a sketch of a French *manoir* by A. W. Longfellow, Jr.

On the other hand, such a hodge-podge of unassimilated parts as that shown in the sketch from a Long Island house having neither the relation of subordination, nor of succession, nor any other, cannot fail to be unsatisfactory.

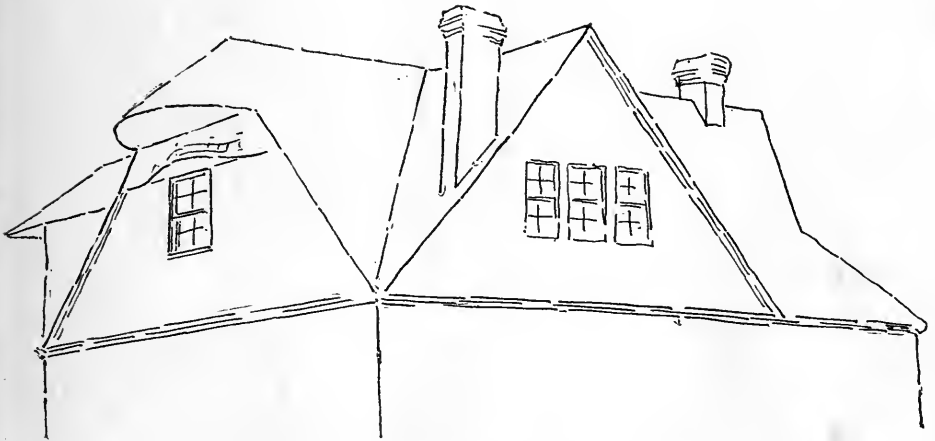
Another important matter is simplicity, which is not plainness, or rather not necessarily plainness, but perfectly compatible with excessive richness. Simplicity of general outline is essential, though to this may be added any amount of elaboration in subordinate parts, and these parts may be again elaborated until the whole may give an idea of inextricable complication and richness; which a moment's glance, however, will decipher. In domestic work, such richness is rarely possible from the limited size of the building; rarely advisable because it contradicts the feeling of domesticity itself, which needs things for everyday use not to be too elaborate.

In domestic work simplicity often demands a degree of plainness, sometimes even of rudeness, as a rough stone wall instead of smooth ashlar, a shingled instead of a clapboarded surface, a brick fireplace and hearth in place of a marble one. Plainness, too, in outline as well as in material; freedom from uncalled for jags and pinnacles, sobriety rather than exuberance.

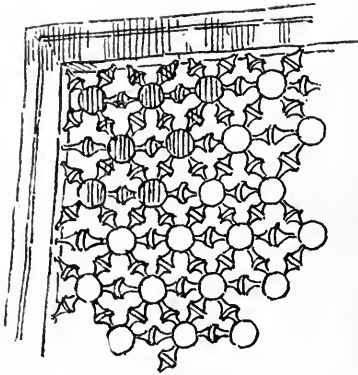
A third essential point of good design is refinement, and it is that in which builder's design is most lacking, if that can be said to be more lacking in one virtue than another which is totally destitute of all. Refinement—synonymous subjectively with delicacy of perception, which most people haven't got—objectively the opposite of clumsiness, the latter quite as merchantable, and even more profitable. Everything that every good designer does is at once seized by the builder and cheapened



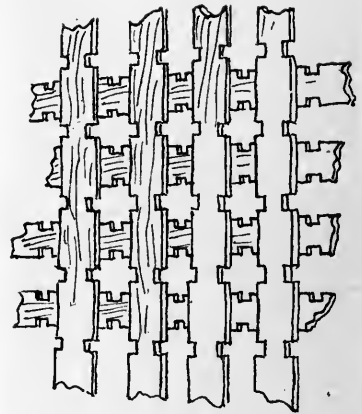
From Sketch of a French Manor, by A. W. Longfellow, Jr.—Good grouping.



Sketch from a Long Island house.—Bad grouping of gables.



Good spindle-work.



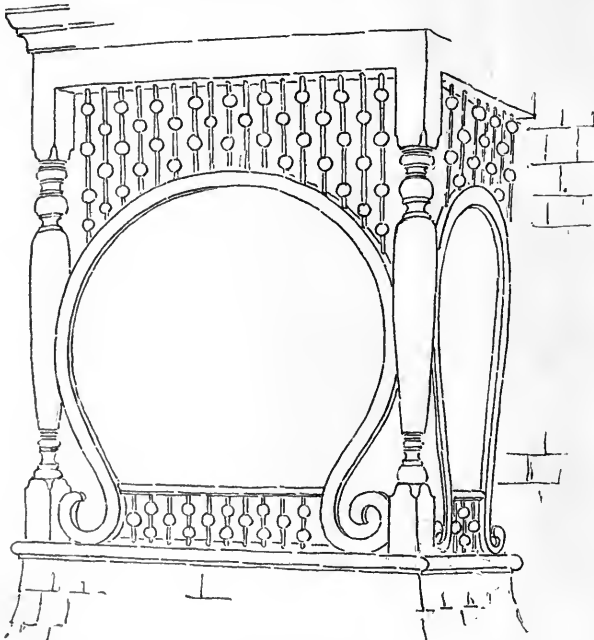
A simple lattice.

and coarsened and vulgarized. Turned spindle-work, with its capability of lace-like effects, necessarily more or less expensive, if well done, is forced into every suburban cottage in some rough caricature like the sketch.

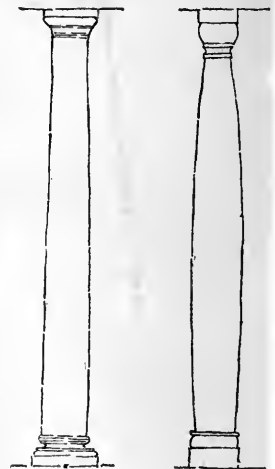
Stained glass, with its excessive beauty when used with discretion and with due regard for its inevitable costliness, has become almost a by-word, so degraded has it been by indiscriminate and vulgar over-

doing by cheap methods in bar-rooms and ferry-houses. Repelled by such associations, people of taste threw stained glass overboard entirely—would have none of it, save a many thousand dollar picture-piece occasionally—for them white glass only would do, even though delicate lead line patterns might pass. Now even this is vulgarized and soon will become intolerable in its turn.

If spindlework is to be used at all let it be with the expectation that it will



Bad spindle-work.

Architect's
turned post.Builder's
turned post.

be expensive and pay for it accordingly or avoid it entirely, whether for railings or screens or transoms.

Better a simple lattice of flat pieces notched out than an inadequate rendering of a spindlework design.

If you cannot have stained glass, or clear glass set in leads, or grisaille work of really good design, and at a price adequate for good work, by all means avoid it entirely, stick to the ordinary sash, far more refined and beautiful than cheap attempts at splendor.

Almost all of the customary "ornaments" of the builder's house are subject to this charge of lack of refinement. Does he want a turned piazza post, with an entasis, column-fashion—graceful and delicate if well done—he is sure to bulge it or to attenuate it to grotesqueness, little difference does it make to him—he knows only that turned posts are "the fashion" among his betters.

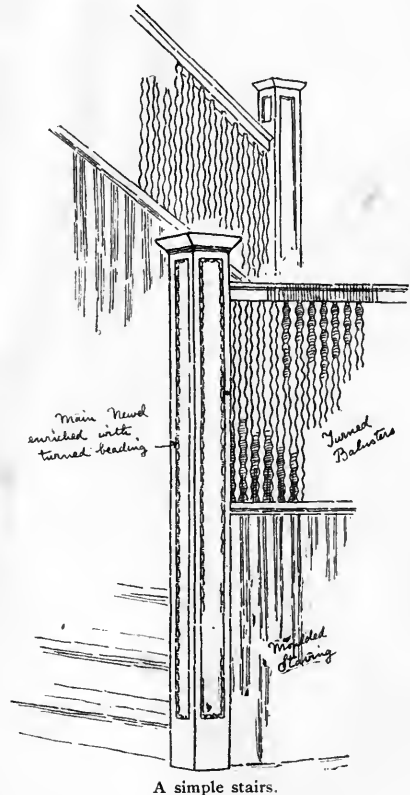
So if you make a design with care and leave it to the builder to execute he is sure to spoil it under the impression that he is improving it, as a builder once for me, as a benevolent deed, put round-ended slate on the tower of a building, the rest of which was roofed with square-ended slate; or as another builder put elaborate Roman modillions into the mouldings of the Elizabeth Hospital which I had designed as plain mouldings, besides making other "improvements" which have changed a fairly good design into a monstrosity, laughable though instructive.

It is really a very important thing in design this matter of refinement. As a polished villain is a pleasanter companion than the most virtuous boor, so a design intrinsically vicious is rendered acceptable by refinement of execution. Such styles, for instance, as the Louis XV., and the Renaissance in general, are wholly dependent on refinement of execution. Louis XV. in a Vanderbilt boudoir is a thing of beauty; in a steam-boat cabin, coarsely chopped out and crudely gilded, it becomes mere tawdriness.

So whatever you have about your house have it refined or don't have it at all. Is it a piece of paneled work with turned beads in the mouldings? Turned

beads are hardly justifiable: beads should be carved, but if you must have them turned and tacked on, see, or let your architect see that the bead is just right, not done to excess, and the result will be pleasant.

Limit yourself to what can be done well for the money at your disposal. If your house must be as plain as a pike-staff outside, let it be pleasing in its proportions alone. If necessary concentrate your efforts internally on a fireplace or a staircase and let the rest go unadorned. The sketch is of a staircase of simple construction but excellent effect, the only ornamental feature in the little two-for-a-cent house, from which it was taken.



A simple stairs.

The difference, in fact, between the architect's method and the builder's method is that the architect wants to do everything as well as possible, both in material and design, or leave it undone; the builder wants to do everything by coarsening and cheapening.

The consequence is that the builder will always make the showiest house for the money—condemned to people of discrimination in the very words meant to be laudatory—by the very fact that it is the “showiest.”

When it comes to what are usually considered adventitious matters, but what are really as important to the general result as anything else, interior decoration and furnishing, the same criterions will hold.

Harmony of effect, by no means monotony however, in all parts of the house, that is to say, unity: and as well, simplicity of scheme: in details grace and refinement.

It is rather curious how rapidly the wall paper designers have left the standard set for them some years ago, at the time of the æsthetic craze; which, indeed, was much more than a “craze” at its best, and among those who understood it, and only became a “craze” among the many who are given to crazes. For some years admirable designs of wall papers were made, tempering the severity of flat conventional designs and strong colors, with half conventionalized flower forms and tints and tones of color with the happiest result. Now, however, wall paper designers lead in the chase toward the rococo and the purely pictorial, turning out scarcely any but overcrowded sprawling floral compositions, or the alleged “scrolls” of Renaissance attempts. There is hardly anything fit to use to be obtained but the plain cartridge papers and some flat ceiling designs which still persist:

Almost our only resource is plain cartridge paper, for paper of some kind is almost essential, its advantages are many. Sometimes even with modest expenditure designs may be stencilled on the plain paper with excellent results.

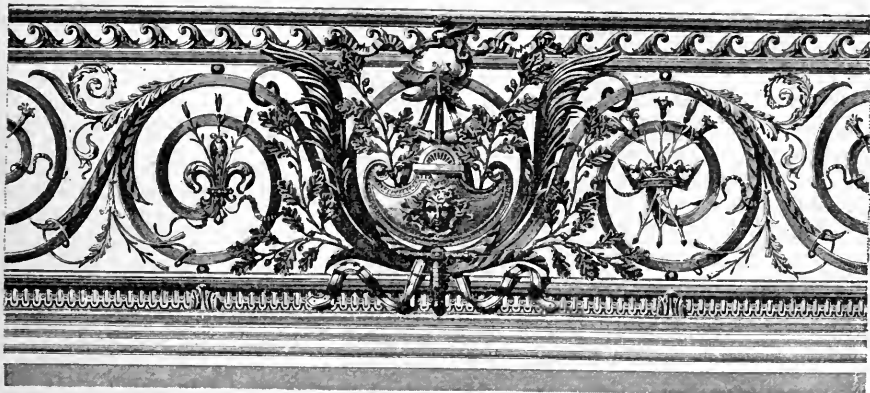
It is to be regretted that the Renaissance white and gold for interiors should have come into fashion again. Appropriate enough and splendid enough in festal halls, it is not available for ordinary houses from its coldness and lack of domestic feeling. However, such as it is, it has fairly started on the downward path—everything from palace cars to Harlem flats is finished in white and gold, soon to end in the stereotyped white paint of twenty years ago, and then a new revolt.

As for furniture the contrary state of affairs exists. Good design, excellent design, prevails even in the cheaper sorts. Rational proportions, delicate parts, simplicity and straightforwardness prevail. Chairs and tables with well designed turned rungs, often perfectly plain cylindrical staves, but quite satisfactory; chairs and tables devoid of glued-on carvings and ornaments, can be obtained everywhere.

Dressing tables, sideboards and such can be got with elegant curves in outline without the vagaries that elegant curves are apt to lead to. Even in the richest Renaissance work the furniture designers keep their heads, and maintain a rational and self-restrained treatment of their work.

The decoration and furnishing of a house are rarely confided to the architect's care, for the very good reason that people seldom buy a new outfit of furniture as they buy a new house—most people having accumulated a mass of stuff which they cannot afford to discard: when it can be done, or as far as it can be done, it would secure the best results to commit the interior fitting up to the same mind that designed the house itself, in the cases at least where the houses themselves are architect's houses.

John Beverley Robinson.



ARCHITECTURAL ABERRATIONS.

No. 9.—THE HALE BUILDING, PHILADELPHIA.



NE is driven back upon Philadelphia when one is in quest of architectural aberrations that are bad enough to be good enough. The commercial architecture of the town is, in the mass, abnormal because the authors of it do not perceive, or willfully disregard, the fact that there is any architectural norma. We are speaking of the designers who have given Chestnut street its distinctive character, and not of the minority of trained architects who are pursuing the thankless task of educating Philadelphia to an appreciation of architecture; and, speaking of this majority, it is fair to say that historical architecture is to them a field not for study, but for pillage, as it was to the barbarians who incorporated in their own rude buildings such columns and capitals and other fragments of classic architecture as they found. Not otherwise can one see with his mind's eye the architect of a Philadelphian commercial palace pulling over a pile of unassorted photographs, and tossing one after the other to his draughtsman with instructions to "work that in." Evidently the

draughtsmen have worked in nearly everything that caught the eyes of their principals. They have not worked them in in the sense of incorporating them with a design. They have worked them in the sense of adjoining them, without relevancy or congruity, to structures distinguished for the absence of design. A typical commercial building of Philadelphia is an example of eclecticism working *in vacuo*, or, according to the old Latin doggerel, of a chimera bombinating in a vacuum.

Consider the Hale building, how it grows. The problem was to erect a seven-story office building with a narrow front on the principal street, and with rooms devoted to similar purposes and of similar dimensions throughout. The danger was that this uniformity would produce monotony. There is nothing of which your Philadelphian architect is so much afraid as of monotony. In fact it is the only architectural defect of which he seems to go in fear. Variety he must have at all cost, and by securing variety he makes sure that he has avoided monotony, whereas in truth his heterogeneousness is more tiresome than any repetition could be. In the present instance the

* We are making a collection of "Aberrations," and shall present one to our readers in each number of THE ARCHITECTURAL RECORD.

only variation demanded by the practical requirements seems to have been that the ground story should be taller and more important than any of the rest. That is a requirement favorable to architecture. A tall basement, designed with simplicity and as much massiveness as might be, would have furnished an adequate base for the building, and if the upper two stories had been distinguished, so as to make a crown for the edifice, the intermediate piers might have been grouped in a uniform treatment, so as to produce a result inoffensive in the hands of a man of moderate ability, while it might have been made delightful by a master. Here, in the first place, the base is heightened by the inclusion of an entresol, so that it is almost equal in importance to the next division of three stories. This would not be so bad, however, if this next division were not itself subdivided by a bracketed shelf above the second of its three stories, which occurs across the front and at each end of the side, but ceases in the middle, where apparently the humbler tenants are not deemed to be entitled to balconies. By this subdivision the chance of a harmonious relation of the principal parts of the building is destroyed at once, while the meaningless interruption of the subdividing line is fatal to repose. The architects of Philadelphia, however, set no store by harmony or repose. The only characteristic they seem to aim at, we repeat, is variety, and they aim at this by collecting in their fronts the largest possible number of things. Whether the things have any relation to each other does not concern them. The two lower of the three stories that are at once grouped and separated are furnished, it will be remarked, with rudimentary pilasters. A row of plain and uniform pilasters along the flank of the building would have been an effective feature, and the wall is long enough to make the series impressive. But this would not have suited the architect. The question that Lord Melbourne used to ask in political crises is one which the Philadelphian architect would do well to ask himself at critical points of his design; but he

never does: "Can't you let it alone?" Alas, he cannot. Above the bases of his pilasters he has projected an absolutely meaningless interruption in the form of a moulding, and so gone far to nullify the impressiveness of the pilasters themselves. As if this were not enough, he has variegated them by projecting the sill course of the upper range of windows across the pilasters at the ends, but not across the intermediate pilasters. By these devices he has managed to destroy the effect the series of pilasters would have had if he had been inspired to let them alone, and he has substituted for it an effect more sought after and oftener obtained in Philadelphian architecture, the effect of variety through higgledy-piggledy.

The cornice and the story over it, or rather between the two cornices, are entirely commonplace, and the best things in the building. The architect almost forgot to put in something original and diversified, and came near doing what he had to do. Almost, but not quite, for upon the flank it will be remarked that his mullions are corbels in brickwork, while upon the front they are columns, ill-modeled and with bases absurdly stilted so as to be well seen, too well seen, from below. The commonplace cornice of the side, too, is replaced in the front by a very ugly and uneasy row of projections over the columns. The pains that have been taken to diversify the treatment of the two walls have availed to prevent even this story from being a point on which the wearied eye might repose in gazing on the great chance-medley, and to deprive it of the grateful sense of humdrum and quiet that a row of commonplace openings between two commonplace cornices would have had if it had been left to itself. The roof reeks with architecture, and the row of chimneys or ventilators, or whatever they are that are protruded to animate the sky-line, and the design of the dormers;—these things may be left to go without the comment which a humane critic has not the heart to give.

One of the chief reasons for the confusion and restlessness of the building is the absence of continuous lines. In



THE F. GUTENKUNST CO.

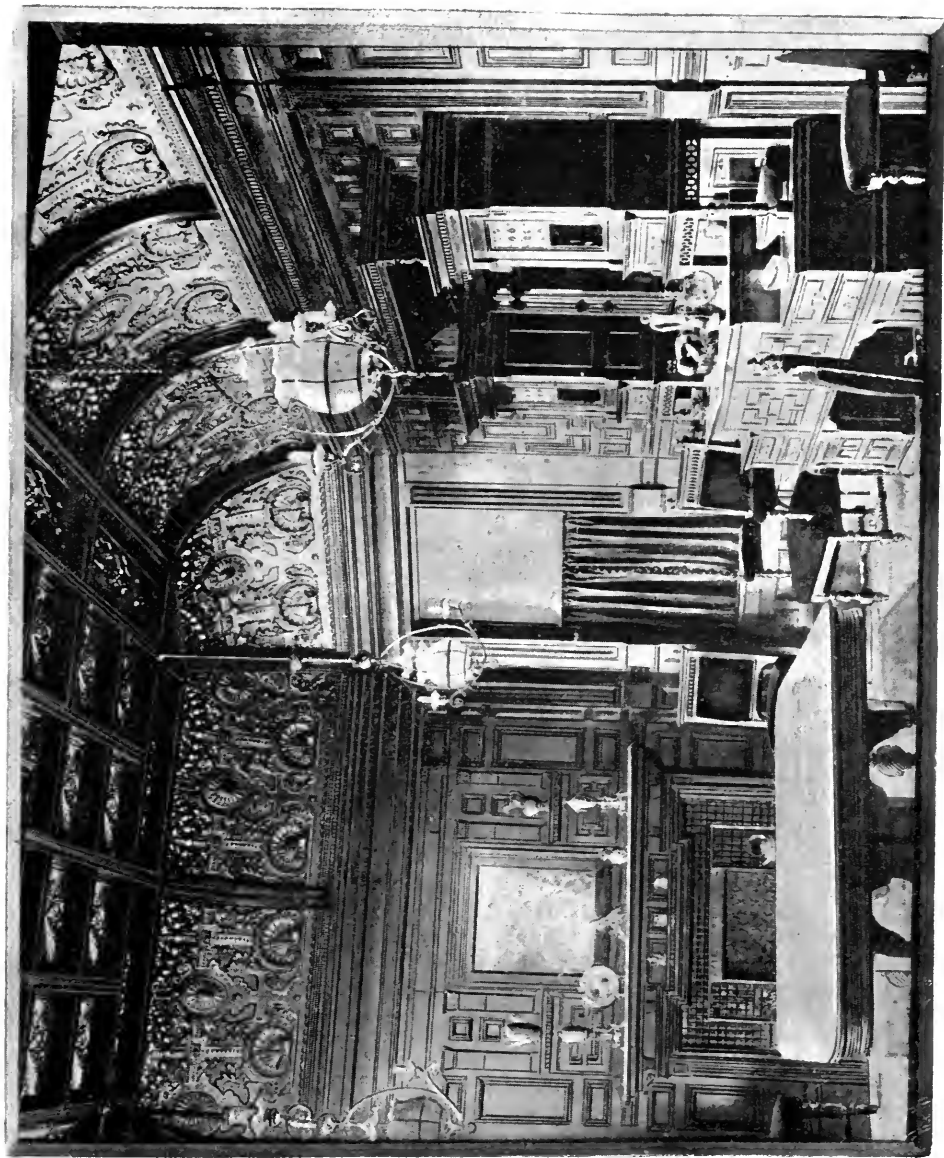
THE HALE BUILDING, PHILADELPHIA.

the flank there are the two cornices which the designer forgot to interrupt, and of which the effect is so far satisfactory, for the thin shelf above the basement is interrupted by a withdrawal at the centre. Continuous vertical lines there are none. Even the angle-pier is interrupted at every story, and its rigidity, as well as its massiveness, is impaired to the eye by the interrupting mouldings at the level of the fourth story and at the middle of the third, and absurd round corbels above the basement and the fourth story, the absurdity of which is mitigated in the latter case by the fact that it has a balcony to carry, but in the former is not mitigated at all.

In fact every precaution has been taken, and with success, to insure that the building shall lack unity, shall lack harmony, shall lack repose and shall be a restless jumble. This effect is greatly enhanced by the treatment of the front and especially of the tower. The salient part at the bottom is very absurd as the entrance of a commercial building. Even if the tower had been a good tower, and had explained itself, it would have been objectionable as still further narrowing a front already too narrow. It is in fact, "in this connection," a preposterous structure. In the first place the staircase of a modern office building is of very little account, and it is highly unreasonable to make it the chief architectural feature of the building. In the second place a corner of the front is the most inconvenient place in which to establish the staircase. Moreover the tower, as a tower of a commercial building is as inappropriate in itself as it is irrelevant to everything else in the building. As a watch tower it might have its uses, though even a watch tower should not be solid at the top. But the notion of building a circular staircase at the corner of an office building and providing balconies at the several stages upon which busy Philadelphians ascending spirally about their occasions can step out and enjoy the

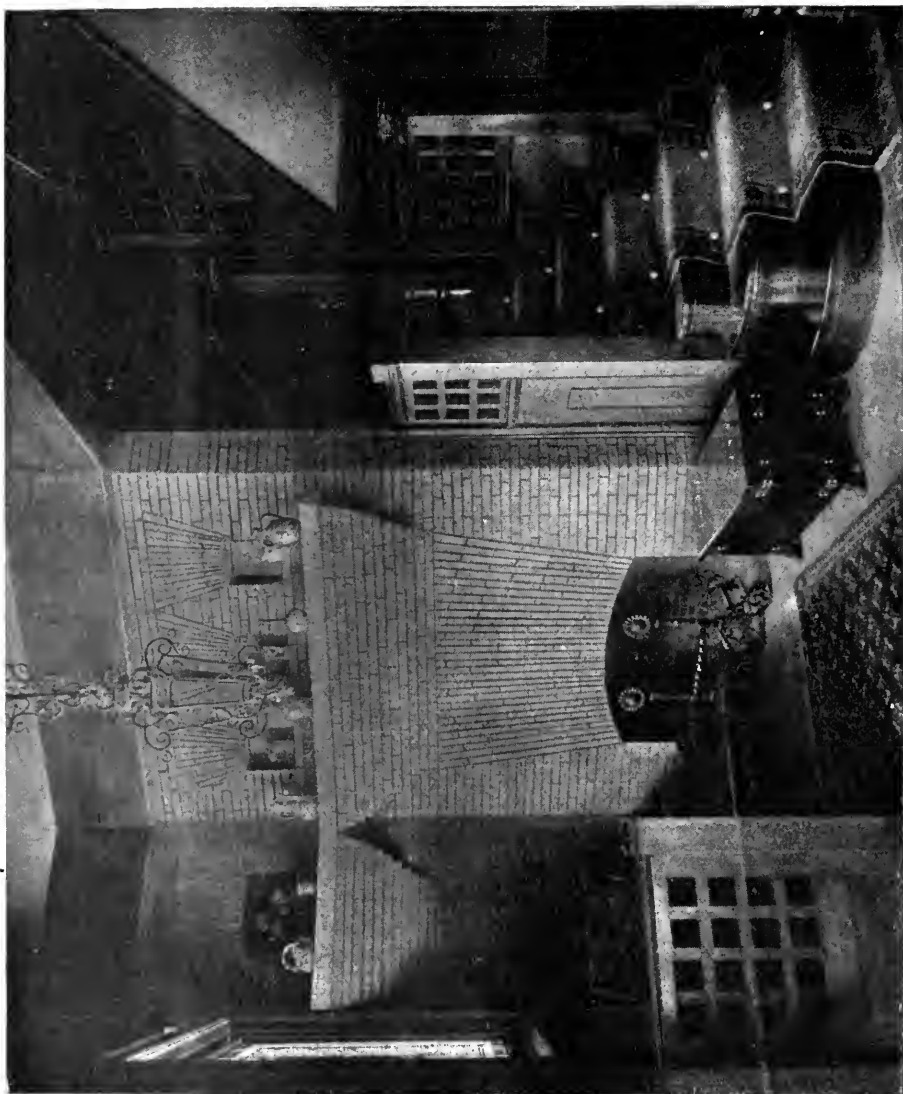
view; all this is irrational, incongruous and ridiculous, and it is a comfort that it should be ill-done. It is not all ill-done. The roofing would be commendable in the tower of a country house, and one can imagine situations in which the whole tower, in spite of its freaks, would have a spirited and commanding aspect. The design of it, indeed, is good enough to indicate that the designer knew better than he builded in the rest of the building, knew what nonsense it was, and saved himself trouble by indicating his contempt for the judgment of his fellow-citizens and for the art of architecture, solacing himself with a little irrelevant form on his own account in the tower. At any rate the tower is as violently incongruous with the building to which it is adjoined as it is with any purpose it may be supposed to answer. It is a sheer case of "making architecture" and it adds the last touch to the general impression of confusion which is the only general impression that can be derived from the building.

The worst thing about these dreadful buildings, for there are others nearly or quite as bad as the Hale building, is that so far from being venerated by the community they satirize they are regarded in Philadelphia with a fatuous complacency. About the time that the Record building was considered in these pages, an illustrated newspaper actually contained, with views of the several office-buildings of Philadelphia, an article in which a patriotic Philadelphian pointed with pride to the monstrosities of Chestnut street and advised architects of other cities to go to Philadelphia and see how picturesque a commercial building might become in the hands of a man of genius! The Hale building is probably more esteemed by Philadelphians than such a real example of architectural design as the Art Club. It is very sad. So long as there is no public opinion in Philadelphia on these subjects so long will such things as the Hale building be done, alike by the incompetent and the cynical.



DINING ROOM.

Montrose W. Morris, Architect.



- HALL. FIREPLACE.

Charles P. H. Gilbert, Architect.



THE NEW YORK CITY HALL COMPETITION.—A PROTEST.



It is not at all odd that an open competition for the New York City Hall should have brought out some 130 designs. Architects are

no more prepared than other men to resist the temptation to take chances in a lottery in which the capital prize is of great value, even though the other tickets are all blanks. What is more surprising is that there should be among the competitors so many architects of rank and repute as are reported to have submitted designs for the new building. The professional opinion has for many years been apparently increasing and consolidating in favor of the proposition that it is *infra dig* for an architect of high standing to take part in any but a limited and paid competition. Doubtless the professional advisers of the municipal officers who have been intrusted with the erection of the building would have advised that certain selected architects should be invited to compete here, with a promise of such a sum as would presumably cover their expenses. Presumably it was the municipal officers who had a notion that to distinguish between architects who were experienced and successful and architects who were inexperienced and unsuccessful would be somehow undemocratic and open to the suspicion of favoritism. Probably public opinion required some sort of competition. The direct selection of an architect by competent judges is undoubtedly the best way of securing an architecturally successful result, as has been so conspicuously proved in the case of the architecture of the World's Fair, but to take that course in the case of a building which

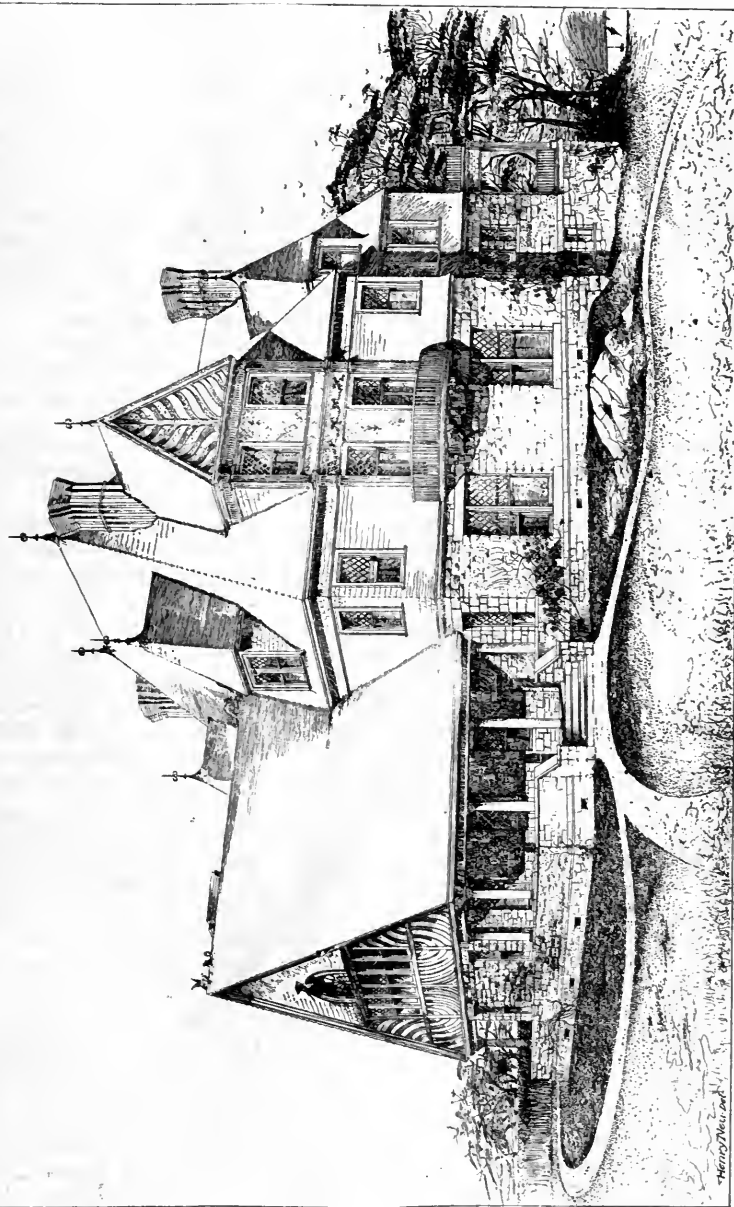
the public already has its suspicions that there will be at some stage an attempt to convert into a job would have excited a great clamor. An open competition was in a manner a political necessity, while the conditions of the actual contest are unusually fair and liberal for such a competition. The amount of draughtsman's work is reduced to a minimum by the regulations prescribing the number and scale of the drawings, while the authors of five of the six designs selected as the best by the undoubtedly competent professional judges are to receive \$2,000 each, or enough to pay their expenses and leave them rather handsome professional fees besides, while to the sixth, to be selected from among these, is in effect guaranteed the honor and emoluments of the place of architect of the building. That the six designs will be at least among the best submitted, competitors have a much more trustworthy guarantee than usual in the assurance that the selection will be made by eminent professional judges. When the selection comes to be made out of these, and not till then, will there be any room for what used to be called favoritism, and is now more commonly known as "pull." But there will not be very much room for this suspicion, for the reason that the choice will be limited to designs that have already passed the ordeal of professional inspection, so that the worst that can happen will be the selection of the least good instead of the best of six good designs.

There is thus every reason to expect that the design finally chosen will be the result of an intelligent and artistic consideration of the conditions, and good hope that it may show the best

that our architects can do under such conditions. But there will still be a general belief that the conditions were made needlessly unfavorable to the attainment of the best result, and this belief is probably held by every one of the competitors as well as by the professional advisers of the municipal authorities. To begin at the very beginning, there was no need why the new City Hall should be erected in the City Hall Park. The city can afford to buy ground on which to put a building for its own use, without encroaching upon a public park in a part of the city in which a park is most needful and useful, and in which the city is actually opening new parks for the use of the people while it is closing to them a park it already possesses. The Elm street improvement affords an opportunity to acquire land, which is at present of very small value, to the north of the City Hall Park, where a plaza might have been made and a great public building erected to the manifest advantage of the quarter and the promotion of the purposes of the improvement, while it would equally have offered an opportunity to increase the available area of the City Hall Park by demolishing the buildings that now encumber and deform it, preserving only the old City Hall, which alone was worthy of preservation on artistic and historical grounds.

These opportunities were thrown away by what seems to have been the fixed idea of everybody concerned that the new City Hall must stand in the old City Hall Park. A belief that is not founded in reason cannot be assailed by reason. But most unfortunately, it seems to have been also a fixed idea with the Commissioners that the line of least resistance in the way of a site for the new building, assuming that the site was to be in the City Hall Park, was through the old City Hall. The only defence for this assumption that has ever been heard is that public opinion would not stand the demolition of the Court House. It is true enough that the Park does not afford room enough for a new City Hall, unless either

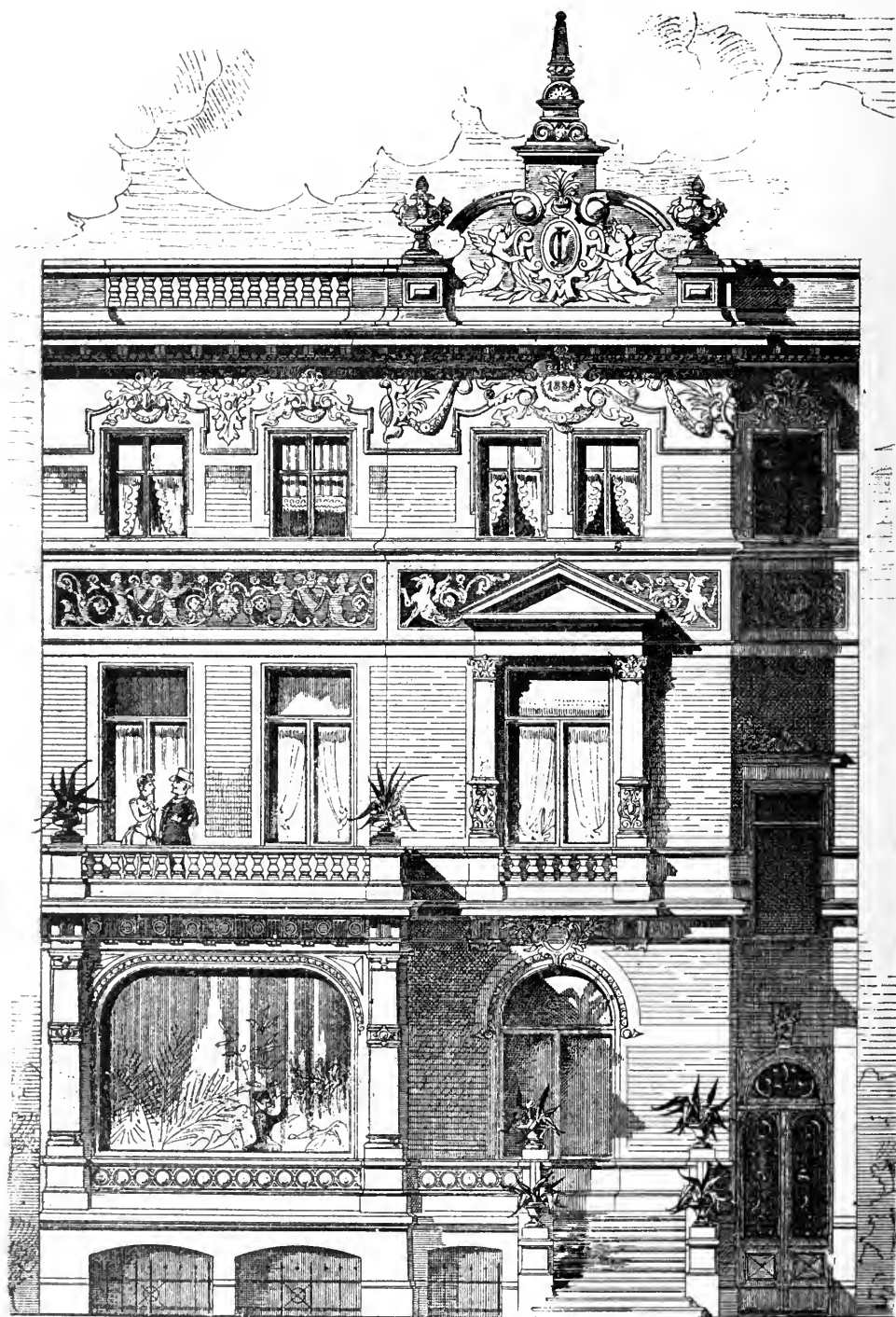
the old City Hall or the Court House be removed. But it is true also that not a murmur has been heard from any unofficial quarter against the proposition to demolish the Court House, which is an ugly and inconvenient structure, besides being a monument of fraud that recalls the most disgraceful period of the city's history; whereas almost every association in the city that can be regarded as an organ of civilization made haste to enter its protest against the demolition of the City Hall, a building that is not only beautiful, but venerable as antiquity goes in New York, and antedates every other edifice that is now conspicuous. As a matter of convenient planning and of architectural effect, no architect could have hesitated to recommend the Chambers street front as the best the park afforded for a public building, while it would have had the further advantage of leaving the most that could be left of the park as a park, whereas the retention of the Court House forced the new City Hall so far south as necessarily to destroy the City Hall Park as well as the City Hall itself. There was nothing but a layman's whim in favor of the site that has been adopted against every argument of architectural fitness, civic pride and common sense. A good architectural result cannot possibly come out of the conditions imposed upon the competition. It is necessary only to imagine the Chambers street front, with the Court House left in the middle of it in order to understand this, and to understand that the site chosen was chosen by the lay commissioners in defiance of the judgment of the professional advisers whom they employed only to disregard. The removal of the City Hall would be an act of vandalism; the retention of the Court House would be an act of vandalism still more wanton and disgraceful. Wherefore the very best result to be hoped from the competition is that, like a former competition for the same building in which official laymen imposed their crude notions upon experts, it may come to nothing.



Tuvedo Parkway.

PIERRE LORILLARD'S HOUSE.

JAMES BROWN LORD, Architect.



Hamburg, Germany.

RESIDENCE.

Puttfarcken & Janda, Architects.

RAYMOND LEE.

CHAPTER XV.

A NEW BEGINNING.

WITH the last day at sea on this particular voyage of the Atlantic liner Hudson, the outlook ahead, as on all other last days at sea, appeared to shorten visibly, and a sensation of proximity to land asserted itself in conjunction with other terrestrial feelings. The restraint and aloofness which the gregarious necessities of life on ship-board tend to suppress commenced to reassert themselves. In fact, in a number of directions the first movements were observable toward restoration of the nicely, inhospitable, aristocratic sense of distrust which was in large measure lost on the second day "out" amid enforced promiscuous commingling. The company began to segregate more closely than hitherto into family units. The charming volatile daughters of the renowned Hermann Vats, the corpulent, veiney-faced brewer of Oshkosh, who were so tantalizingly marriageable, being refulgent with paternal wealth without any dread suggestions of heredity shortened their flights from under the maternal wing, so that acquaintanceships which were at the very verge of delightful confidences and progressive possibilities were summarily cut short by an obtuseness and preoccupation begotten of trunk-packing and other prosy preparations for landing. Mrs. Hardman, whose silver hair, dignified carriage and persistent adhesion to black silk, precluded any suspicion of the fact that her long residence in Europe with her enfeebled husband was strictly an affair of economy no longer stopped to chat with little Mrs. Pole, who had indiscreetly confided the informa-

tion that she was on the way with her three children to join Mr. Pole, who had lately obtained an excellent situation in Rock Island (and twice the income of the Hardmans'), but merely smiled condescendingly as she passed her. Sir Leonard Duns who, in company with Richard Langrishe, Esq., was "visiting the States," and consequently might be excused for any lesser indiscretion, withdrew his appreciative patronage from "Billy" Buts, pugilistically known as "Blear-eyed" Buts, then on the warpath to wallop "Bantam" Kid, the American featherweight champion. De Lancey Howell, the Republican spell-binder and silver-tongued Patriot of Ohio, whose annual trip to Europe was made apparently for the purpose of enabling him to give thanks to Heaven (through the newspapers) that he was an American, lost interest in poker playing and ceased to dignify stories of a tropical character with the manners of a commercial Chesterfield. Francois Augean, the great French author, about whose recently published book, "*Mes Voyages au Nu*," the English-speaking world (unable to agree as to whether it was Art or Indecency) was disputing, began to prepare himself for introduction to the American public. The Captain of the good steamer, who had shown so much paternal solicitude for the comfort of the pretty women on board, betook himself to "the bridge," and even the seamen, who had appeared hitherto as idle as porpoises on deck, developed a restlessness indicating of approaching change.

Our old friends, Raymond and Ralph, also were beginning to anticipate the end of the voyage. Each felt it would mark the beginning of a very uncertain path for himself, though neither expressed this fear to the other. Scarcely a word had passed between them as to the events which led to Ralph's sudden departure from Eastchester. All that had been said is quickly told. When Raymond discovered Winter in London, Raymond asked :

"What are you going to do, Ralph?"

His purpose was to throw the entire situation begotten of the previous days' events into an interrogation, and thus bring it forward for discussion. It is true Winter's bearing toward him outwardly was as cordial as ever, but there was

a difference, and Raymond felt that his friend was forcing himself to loyal acceptance of events which he really misapprehended.

Ralph, however, took the question literally. He had no desire to analyze that last scene in Eastchester, preferring an indefinite understanding of it. On one certain matter, however, he was clear, and that enabled him to determine positively upon his immediate course of action.

"I am going home," he replied doggedly, in a tone implying, despite himself, "need *you* ask?"

The tone was not lost on Raymond.

"Let me go with you, Ralph?" he asked, softly. "Surely Ralph will understand now," he thought.

The question did penetrate. Winter turned to him quickly.

"*You*, Ray!" he exclaimed.

"If you'll help me as far as New York. I can't do it myself."

"But—" Winter stopped short. "What does Lee mean by this queer step?" he wondered.

"Do you mean it?"

"Will you help me, Ralph? I will repay you. I suppose I shall be able to some day."

"Don't speak of that, for goodness sake. But are—are you in dead earnest, Ray?"

"Will you help me," Raymond reiterated.

"Yes, yes; of course, but..."

"Then get me a berth with you, old man. When do you sail?"

"Next Wednesday," Winter replied, absently.

The situation puzzled him. Was Raymond playing with him? Quit England when— What confusion! "But my own part is plain," he moaned inwardly. "Why bother about the rest? If Raymond wants to come, why not? I shall thus retain so much of the past until—to-morrow or the next day, I suppose, as with everything else I hold."

"If you are in earnest I'll get the ticket in the morning, Ray."

"I am in earnest, don't fear." Then he added in a lighter tone, "I always told you we should make this trip together."

My dear fellow, it's Destiny. The idea that Man plays out a play ordered by himself is nonsense."

So, without another word regarding the event that set them traveling, on the last day at sea our two friends found themselves, like the rest of the passengers, anticipating and preparing for their arrival in port, which was due in the ordinary course early the following morning.

Ralph was gathering together his loose possessions in the cabin and Raymond, stretched out on the upper bunk, was watching the water glide past the open port-hole. Ralph had held back what had been uppermost in his mind all the morning. Bending over into the depths of his trunk with an armload of articles he exclaimed:

"By the way, Ray, you won't mind, will you, if we hurry at once out of New York to Pittsburgh? I would like to surprise them at home as soon as I can. They don't know we're coming, you know."

"Delay! of course not. But I take it New York's the place for me. You know I'll begin to forage for myself at once."

"You're going home with me," exclaimed Winter, bobbing up from the box.

"No, no, Ralph, it's very good of you to suggest it, but—really I can't."

"Good gracious! what do you mean? Not go home with me! Why, what are you going to do?"

"Get to work."

"At what pray?"

"At anything. The first work that is offered to me. Tell me, what do you think I can do?"

"Do, man alive; come home with me, of course, and take your time until you have looked around you well."

Raymond shook his head and said with incisiveness which pained Winter:

"No, I can't do *that*."

Ralph felt again the cold touch of the Eastchester affair.

"What then?" he asked indifferently, as though the invitation was dropped.

Raymond affected not to have noticed his friend's irritation.

"I wonder whether there is any sort of hackwork on a newspaper that I could do. Didn't you say that big bearish-looking fellow you were talking to yesterday had something to do with the New York Press?"

"Moyle? Yes. He's the editor of the *Daily View*. Didn't I tell you? My father is the architect of the paper's new building now going up on Broadway. I was quite unconscious of the fact until he asked me whether I knew Mr. Winter of Pittsburgh."

"It was your speaking of him yesterday," said Raymond, diffidently, "that gave me the idea that—perhaps . . ."

"On the *View*!" exclaimed Winter. "Don't think of it. Wait until you see the sheet. No description could give you the full measure of the thing. I shan't attempt it. But in the way of preparation let me say its aim is to exhibit life on the beery side, and the result is in a sense pathological; it exposes to view the morally and physically damaged parts of humanity. Why, my dear fellow, when you examine the sheet you won't be able to tell whether it is a record of the courts issued for perusal by criminals—a trade journal for that class—or a chronicle of the gossip of kitchens."

"I thought it was one of your great newspapers."

"So it is. Pays enormously. How else would you measure greatness in a newspaper? The proprietor was a Jew peddler ten years ago. Now he lives on Fifth Avenue, moves about with, if not in, 'Sassiety,' and believes he is one of the most important factors in American civilization. Observe, Raymond, as you are about to make a choice, how much we gain merely from the 'field' we operate in. Pugnacity that leads a fellow to tackle a bully twice his size lands him next morning in the police court; on a field of battle the result is sometime fame. Peddle brumma-gem and you are a sort of commercial pariah, peddle the filth of the police courts, the gossip of the vulgar and the chatter of every irresponsible ass and you can coin your dirty instincts into gold and cut a figure in contemporary history."

"Hear! Hear!" cried Raymond, "all of which goes to show that I should try the *View*, particularly as

I'll wager it isn't as bad as you say. There is some good in it."

"As in harlotry," snapped Ralph.

Raymond jumped to the ground.

"Ralph, you're getting mulish. Come let us go and see this Moyle. What harm can there be in *that*? It decides nothing."

"No, but your present tendencies are in the wrong direction, and I wish you would listen to me. Ray, I don't want you to take a course that will surely result in your dissipating yourself, shutting your eyes to things that you see now and closing your ears to voices which can never penetrate for a moment into the brutal atmosphere of a newspaper office. I hate to see you throw away priceless possessions which, by and by, and almost in proportion to your success obtained by discarding them, you will long for and feel poor without. Urbanity, graciousness, delicacy, charm, all the gentle, persistent, and as you have often said to me, ultimately dominant forces, you can't even think them into a place in the composition of a newspaper. And an American newspaper! Great Heavens! that incarnation of all the blatant phases of life. I don't want you to become one of these costermongers in literature. Isn't Eastchester better, with its dignity and peace? You never could be really poor there, Raymond, and mark me, you never can be rich on the road you propose taking. Look here, old man, do this—" The tone of Ralph's voice changed and it was evident he was struggling against a choking in his throat. "Go back to Marian. You ought to. I've been a fool. She loves you, which is right—and let me help you. You know what I mean. I have enough and you can repay me as you like—if you can, by retaining your old love for me. Don't you understand? I am stricken, Ray, and I can't, *can't* give up everything."

The pain in this speech, the crying undertone of loneliness and bereavement and the appeal for comfort touched Raymond so deeply that he was unable to speak immediately. Besides, there were elements in the situation for Raymond which Winter was not aware of.

For response the younger man seized his friend's hand.

For a moment the action sufficed. It lessened the tension of the situation.

Raymond exclaimed, "Oh, Ralph, you are good. Dear old fellow, I understand, understand all, everything, right down to the very heart of it. But listen to me, and don't question or object to what I say, for I am expressing the final, irrevocable decision, not of my own wishes or whims, but of the hard necessities of my position. I *can't* return to Eastchester. If I had millions I could not marry Marian. I am an outcast, and nothing—mind you I am not talking in any questionable way—nothing can make it different. Stop, don't speak. I know you can't follow me in all this. Of course you can't. Don't try. Let me remain as I am. My position cannot, positively cannot be bettered. Help me in the way I have asked you. And don't fear that my affection will lessen."

Ralph kept his eyes fixed on Raymond as though still listening.

"Come, let us seek this Moyle," said Raymond, cheerily.

Linking his arm in Ralph's, he drew Winter out of the stateroom. At the foot of the companionway, the latter asked:

"Ray, what is it I don't understand?"

"Destiny, Ralph, which is urging me to see Moyle."

Now, Moyle, George Moyle or "Boil," as his irreverent enemies called him in derision of his undoubtedly rubicund and spotty face, was not a man that permitted himself to be dealt with lightly. His was one of those entirely repellent natures that offer to the stranger not a single easy line of approach. On all sides he was hard, dense, gnarled; morose, taciturn, lethargic of disposition; and so self-contained that some people wondered whether he had ever received an impression from without. He was shaggy, big-boned, uncouth, loud and husky of voice; a great drinker, who absorbed liquor as an irritant, which inflamed his temper—and his eyes. In his profession his reputation was supreme. He was a superb organizer, so everybody said, quite unhampered by the possession of predilections or hallucinations. He was a hater of individuality or personal color of any sort. He placed no value upon intellectual

temperance, moral fixity, or, in short, upon anything that rendered the making of a newspaper more or less than an affair of tactics, a process the purpose of which was to secure popular attention, surprise, acclaim. With him "newspaper work" was a game, governed by its own rules, making for results as unrelated to the larger interests of civilization as chess or poker. The game was the thing. It was his theory (that is, his friends formulated this theory as his) that the good journalist must station himself quite beyond morality or intelligence or any of those larger influences which seek to estimate or order in a set manner the multitudinous small facts of life. The journalist must not see any intrinsic difference between the Pope and an adventuress. Either might emerge as "news" at any time, and the value of either to the newspaper process cannot possibly be estimated in advance. The former might anathematize Socialism, which, of course, would occasion a crude discussion of theories, and touch-and-go interviews with famous and infamous Socialists. Adolf Schwegler "might be seen (or if not seen, reported) by our representative, whom he greeted cordially as he was leaving the German Reichstag," and his views might be "sandwiched" with those of Max Sanberg, the Fourth Ward Anarchist, whose rant on religion, tyranny and the devilish nature of government, audible in his favorite pot-houses every night of the year (but unreported) now becomes "news." Or his Holiness might die as he was leaving the Vatican, and be served up in an "extra," or he might be reported to have sanctioned a project to convert St. Peter's into a monastery, which would call for various discussion and comment upon the growth of asceticism, until it leaked out that the report was entirely false.

But Moyle would declare it is foolish to endeavor to estimate the latent "news" in a pope, or in how many ways a lady of suggestive notoriety might be made of interest to an intelligent public. She might figure prominently in a clerical crusade against Vice, order clothes from Paris, ruin young Simpkins, or reform, and as contributor to the *Sunday View* work greater harm detailing her experiences ostensibly in the interest of chastity (and an income) than she ever did by her practices.

Even on board ship Moyle could not free himself from habits which had hardened in him during the previous twenty years. He never made his appearance on deck until about noon, at which hour usually he pulled himself, with manifest labor, up the companionway, his eyes half closed and his face puckered with sour temper. It was his practice to make at once for the smoking-room and ring for whiskey, the stimulus of which apparently was needed by both his circulatory and mental system before either attained to a normal condition. Luncheon followed, and then with a big cigar, which he puffed with great deliberation, he ensconced himself again in one of the deep chairs of the smoking-room, to remain there for hours.

He was invariably in his most amiable mood at the moment when his cigar was first lighted, and it so happened that it was at that very juncture that Ralph and Raymond entered the smoking-room.

The apartment was occupied only by himself and two chess players so absorbed in their game that they were indifferent to luncheon. As Ralph looked around the room he caught the eye of the Editor, who beckoned to him.

"Come along," whispered Ralph to Raymond.

Before the two were come half way to where he was sitting, Moyle, in whose voice there were no half tones, cried aloud so that the chess-players turned around sharply to look at him:

"As you'll see your father I suppose before I shall, I wish you'd tell him I have a new idea or two which may call perhaps for a few slight modifications of the editorial floor plan."

"Mr. Moyle," said Ralph, "let me introduce to you my friend, Mr. Lee."

The Editor acknowledged the introduction with an indifferent "How do you do," without changing his lolling position. "Take a seat, both of you."

The two young men seated themselves, one at each side of him.

"They sent a rough sketch of the floor plan to me at Carlsbad. It's all right in the main, but too much space is given to some of the rooms, and I don't see why one of

the elevators can't be shifted so that it can be used exclusively for the paper. It's damn nonsense to have the staff dawdling between Heaven and Earth while the tenants are finding their hutches in fourteen stories. See, you're in your father's office?"

"No," replied Ralph, "I was."

"Oh," grunted Moyle. "Didn't like it, eh?"

"Not exactly," said Ralph, smiling.

"What are you doing? Acquiring capacity to make short work of the old man's money?"

"I thought that talent was hereditary with rich men's sons," said Ralph, smiling.

"It's very seldom that a born money-maker like your father propagates his kind, I can tell you."

"Which, perhaps, is a happy arrangement."

Moyle blew a cloud of smoke in front of him and watched it dissipate.

"What *are* you doing?" he asked.

"Oh, I've been studying music," replied Ralph, a trifle awkwardly.

"And the old man dances to the tunes. Well, give him my message, will you?"

"Certainly," replied Ralph. "And now (looking toward Raymond) there's something I want you to do for me, or rather my friend here, Mr. Lee."

"Uh?" ejaculated Moyle, staring for a moment at Raymond. "What is it?"

The Editor evidently was on guard.

"My friend," answered Ralph, hesitating a little, "is, as perhaps you have detected, an Englishman . . ."

"Do you advance that fact as a recommendation?"

"Not exactly in that light, but it isn't detraction, is it?"

"No," he answered, shortly. "Well?"

"Well, I have induced him in some measure to try his luck with us, and he's anxious to get some sort of work to do on a newspaper. Now, can't you help him and incidentally greatly oblige me?"

Moyle stared again at Raymond and brought the color to the young man's face.

"Have you ever been on a newspaper?" he asked.

"No, sir," Raymond answered.

"Why don't you cobble shoes?"

"Well," said Raymond, confused by his questioner's bluntness, "I haven't learnt the trade."

"That's it," exclaimed Moyle, waving one of his hands, "we can't cobble nor lay bricks because either pursuit requires a few hours' preparatory training, but I'm damned if we can't all be newspaper men. That's a capacity given to all young men of nineteen with their high-school diploma. You have written essays, of course, in bad Macaulayese, and mamma regards them as a clear case of genius. Eh?"

"No," said Raymond, thoroughly angered by the man's brutality of manner, "my style is patterned after the higher model of the daily newspaper."

The insolence of the reply fell flat upon the Editor so far as any outward indication went. He was silent for a moment and then asked:

"Young man, what do you imagine you can do on a newspaper to earn salt?"

Raymond was thoroughly aroused. He concluded his plan had quite miscarried and cared little what he said.

"My only thought was that perhaps I might make a beginning somewhere without training, as even an Editor had to I suppose. My hope has merely been for a short chance to discover if there is anything in me."

"Come, Mr. Moyle," interposed Ralph, "you must be using raw material somewhere, and if you will I am sure you can give Mr. Lee a chance. He's a good French and Greek scholar and is not the tyro with his pen you imagine."

"Ralph, don't trouble Mr. Moyle," urged Raymond, bitterly, rising as he spoke. "He is no doubt right. I'll turn to cobbling. I am sorry we have bothered you, sir. Isn't it time for luncheon, Ralph?"

Saying this he started to leave.

"Good day, sir," he added to the Editor, who, instead of replying, turned to Ralph.

"Tell your father the electrical fixtures...."

"Excuse me," interrupted Ralph. "Raymond, I'll join you downstairs in a moment."

"Very good," said Raymond, who quitted the smoking-room, while Moyle continued his message about the "fixtures."

By and by when Ralph joined Raymond at table he asked:

"Well, what do you think of Moyle?"

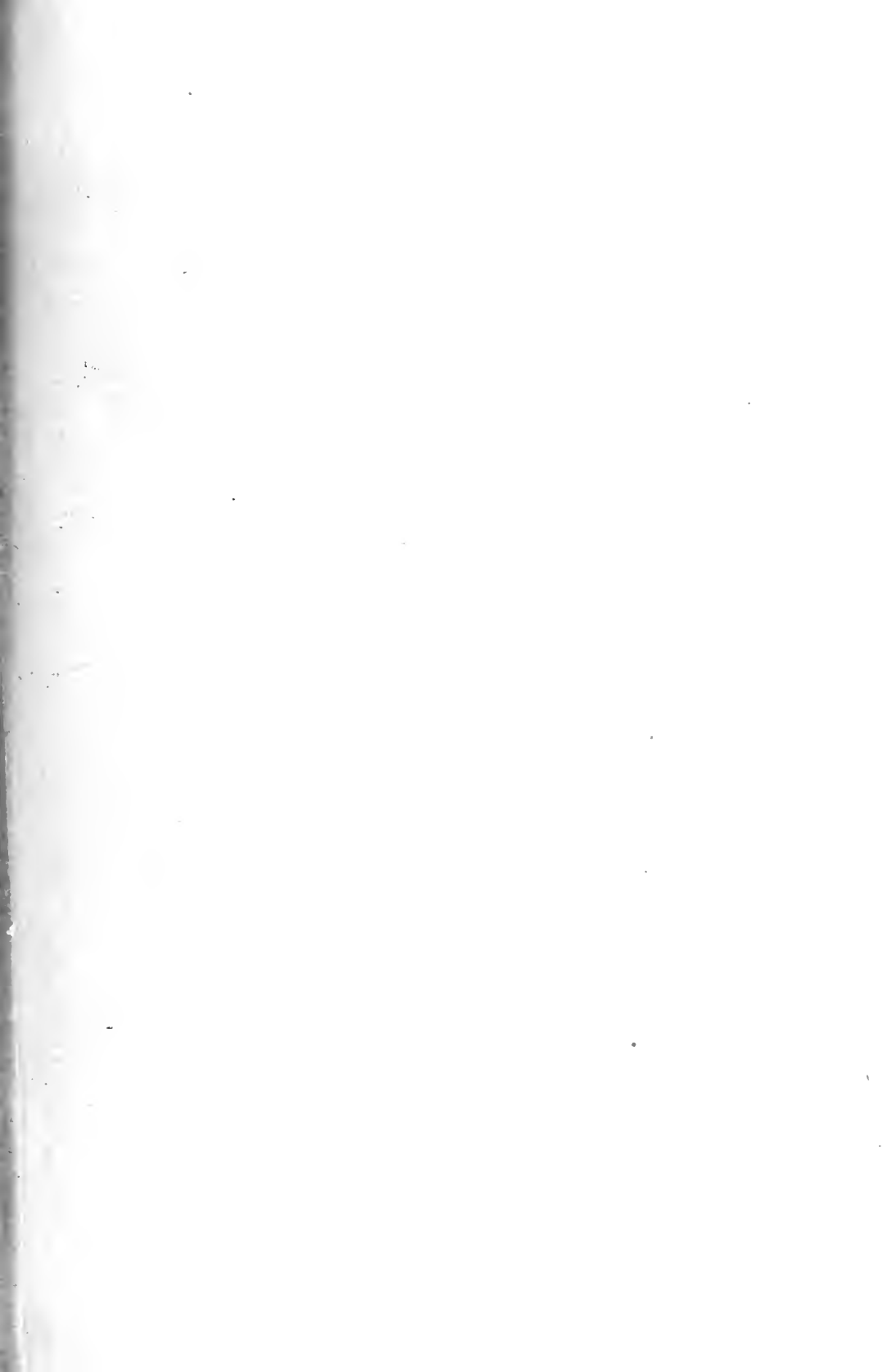
"He's a beast."

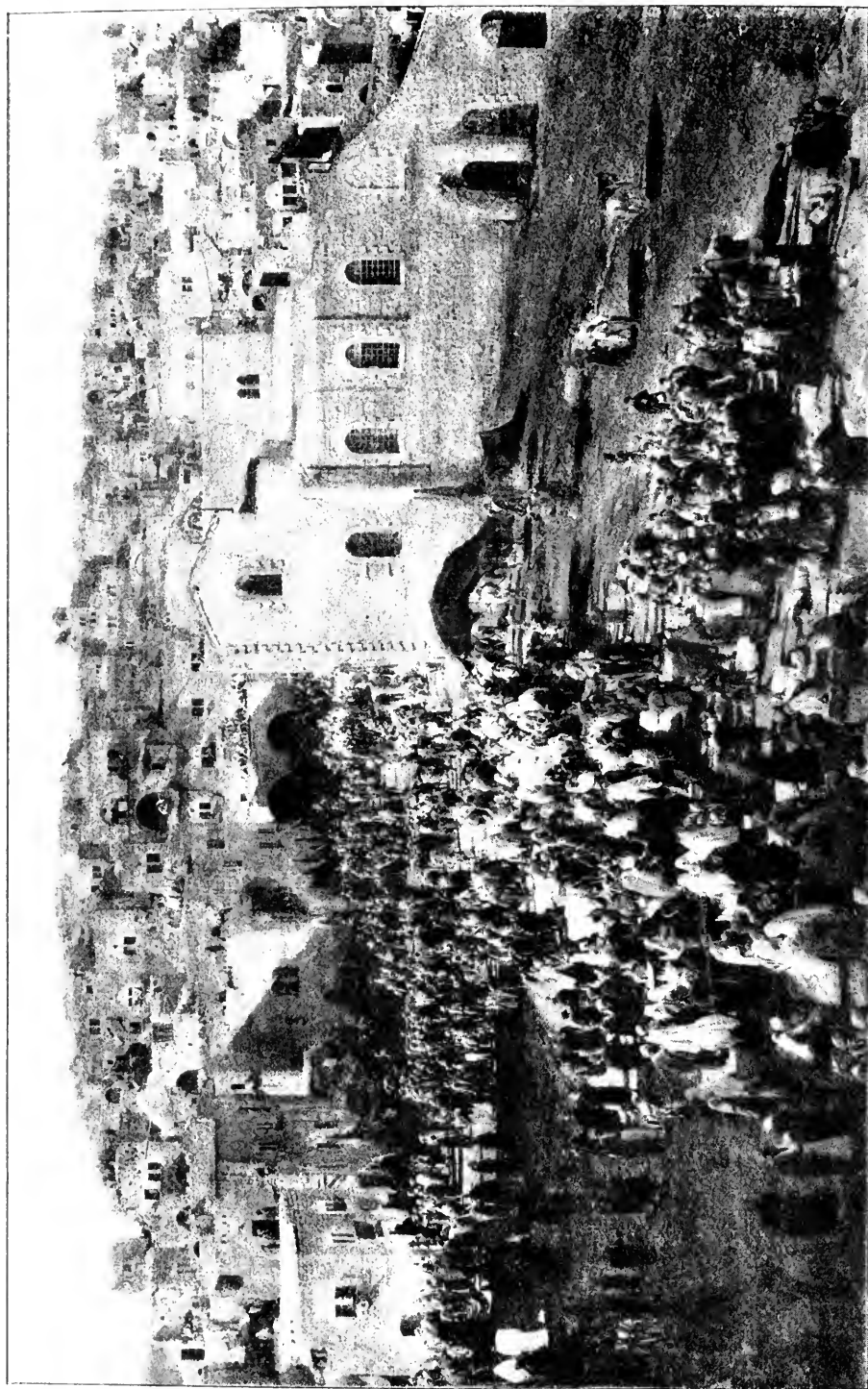
"Something of a brute, old fellow ; but I got this out of him: you may call at the office the day after to-morrow and see Mr. Balder, the City Editor. He'll speak to him about you, he says."

"Thanks ; but I'll consider first whether I'll visit Mr. Balder. You see, Ralph, you've half won your point."

To be continued.







From a photograph.

ENTRANCE OF PILGRIMS INTO JERUSALEM ON CHRISTMAS DAY.

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ARCHITECTS' HOUSES.

Part II.



BEFORE beginning even to think of a design for a house—for any building—it is important that we

should go to the spot where it is to stand, look at the site—the surroundings—imbibe the atmosphere of the place. For every reason, practical as well as æsthetic, we ought to examine the site first.

Practical as well as æsthetic; from the very outset this double view of everything must be taken, nor can we conceive ourselves as ever having fulfilled either one completely if the other remains in any respect unfulfilled. In reason and in the mind of the architect these things are not separated as in the common conception, but one is part of the other, or rather both are but faces of a complete whole. Not that it is possible for every building to be beautiful, nor even pretty. There are in nature deserts and harsh crags as well as peaceful pastures and sparkling rivers. That each object should as perfectly as possible express its nature by its appearance is the best that we can do æsthetically. The houses of earlier days—I am thinking especially of the days just past, colonial and revolutionary days—these expressed the primness and dogmatic severity of our ancestors, as well as their depth of genuine heartiness and hospitality as plainly as the countenance of man expresses his passing moods.

And now, I am inclined to think, the more spontaneous and less sophisticated builders' houses of our own time express quite as clearly our relaxation of austerity in morals and manners as well as the transitional chaos of our intellectual development. However that may be, we need not attempt to put the domestic quiet of the cottage into the iron-bound walls of the factory with its ceaseless grind. Impossible, some will say, that such objects as factories can ever be thought of from an æsthetic standpoint. It may be that they are right, but inasmuch as architects are called upon to design such, it is certain that the æsthetic aim can only be to express in the appearance the inward nature of each different object, whether gay or severe, attractive or repellant. Not without æsthetic value is the black and grimy group of sugar houses, ten or fifteen stories high, that dominates the Williamsburg suburb, standing apparently upon a plain—solitary; so completely it overpowers the compact level mass of poor, two-story houses, from which it springs.

So, as I was saying, the very first step is to examine the spot where our house is to stand. If it be very uneven we ought to obtain a more or less minute topographical survey, as the variations in height and in declivity are very misleading to the eye.

The only case where this inspection might be unnecessary is upon perfectly level ground; but even then there are

distant views to be considered, slight elevations to be preferred for dryness, clumps of trees to be used as much to advantage as possible, unexpected pieces of information as to accidents of soil that may be of great value.

In hilly or rocky country it is of course all-important, this business of placing the house in just the right position, terracing out here, where the steepness of the slope makes walking inconvenient, or where the view and aspect tempt us to linger in the open air. In forming our conception of the immediate surroundings of the house, there are two extremes of landscape architecture. On one hand, there is the polished beauty of the artificial landscape of the Italian villa; on the other, the picturesque beauty of untouched nature.

The possibilities of landscape gardening are hardly known in this country, the beautiful and romantic compositions of grove and statue, of pool and bridge, of flowers and turf, which older countries exhibit. For the most part, we are fond rather of the wildness of nature, possibly because we have so much wildness of nature to be fond of. Even in the wildness of nature there is a choice and in the landscape of art there are differences in the beauty of the results. The same principles lie at the bottom, whether we have to choose a natural treatment or to construct an artificial one. Usually, we must adopt a middle course, partly adopting existing natural features, partly enhancing these by our own efforts. The fundamental principle in planting or grading, or any out-of-door operation is to treat everything as parts of a whole and not merely as separate objects. The suburban artist for the most part takes an opposite course. I will plant a weeping elm here, he says, because I think a weeping elm is very graceful; here I will put a maple and here a liquidambar so that I may have red leaves in autumn, and so on. The result is that his lawn is spotted vaguely with unrelated specimens, each surrounded by a neatly cultivated circle of earth. Somewhere among these he will place a cast-iron vase or fountain, or perchance a deer, painted to look

like a real deer, and his suburban heart will swell with pride at his achievements.

The true principle is to work for general effect. Groupings everywhere with a definite view to a general grouping. Trees in clumps, or groves or avenues, rarely in straight lines or equal spacings. Groups of groups, showing contrasts perhaps of foliage or shape or both. Shrubs always in clumps, the smaller the grounds the more imperative this is. In general stiff and formal arrangements need a very large scale to make them acceptable. A straight walk half a mile long with flat walls of clipped foliage on each side may be magnificent, where one fifty feet long would be ridiculous.

So with architectural incidents, vases, statues, pavilions, they must be good in themselves, and properly grouped with surroundings; this usually cannot be accomplished on a small scale. Therefore if we must confine ourselves to a limited space let us abjure such objects entirely; if we are fortunate enough to have ample field, let us see that our statues are of marble, stone or bronze, with background of foliage or sky; not cast-iron, with the family wash for a background.

Practical considerations in the site are of as much importance as æsthetic. Is the soil rocky, or clayey or sandy; the last much the most easily managed; the two former needing more or less care and usually giving more or less trouble. The trouble is from water that in rock or clay drains into any excavation we may make and stays there. From sand veins or other fissure in a clay soil, from minute crevices which always occur in rock the water percolates and settles around our cellar wall, gradually rising until the hydrostatic pressure is sufficient to force it through almost anything that we may put to keep it out.

It is indeed possible to build a cellar that will stand such a test and it is often done in cities, with the aid of asphalt, and flagstones and inverted brick-arch cellar bottoms, but in a moderate country house, such as we are likely to build, the cost puts it out of the question: Our only course is

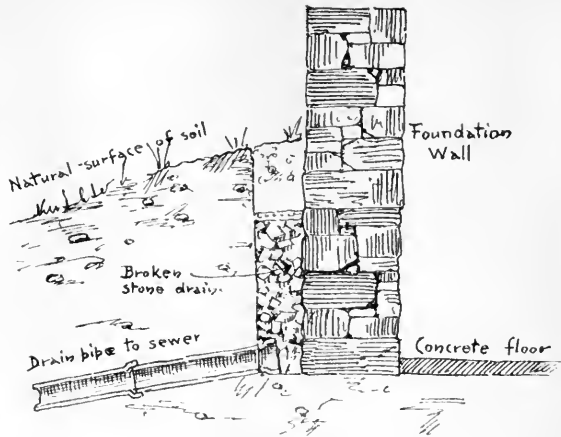
to give the water an ample outlet, so that it may more easily go somewhere else than into our cellar. In a village or town where there are sewers this is easily managed; the important thing is to secure an ample connection with the sewer with a pipe not less than five inches in internal diameter. If the soil be clay or rock we must fill in around our cellar walls with loose materials, broken stone or coarse gravel, putting a line of cheap clay drain tiles at the bottom and connecting the whole by the five-inch pipe with the sewer, which must be lower than our cellar bottom, considerably lower if possible.

As the sewer is fixed we must see that our house is set high enough to bring the cellar bottom well above the top of the sewer.

If the house is in an isolated situation a similar course must be pursued; only here we must dig our own sewer in the form of a drainage trench sloping away from the house to wherever we can find an outlet at a lower level.

There is little difficulty in doing this in rolling country, but a cellar dug in heavy soil or rock in a level country is sure to give trouble and is better if avoided entirely.

Sometimes in addition to the broken stone around the outside of the cellar

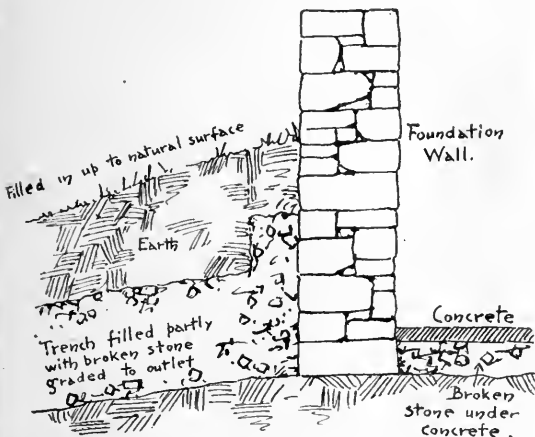


Foundation and drain-pipe.

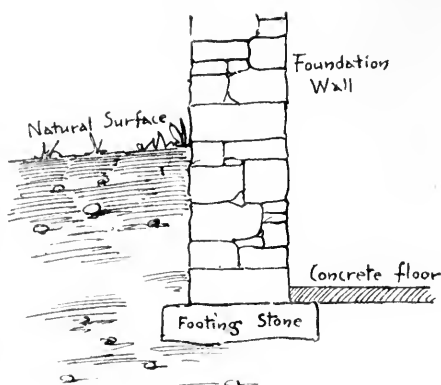
wall it is necessary to lay a bed of similar loose material under the concrete floor of the cellar, taking care to make holes through the cellar walls to give it an outlet, otherwise the last case of that house will be worse than the first.

In very sandy soils hardly any measures are needed; the water drains away so fast through the sand that it has no tendency to penetrate the walls. I have seen a perfectly dry cellar in a sandy soil with only eight-inch brick walls and no protective covering at all. Even in sandy soil it is best, however, to put a coat of coal-tar roofing cement—asphaltum it is called but it is not—taking care not to leave any uncovered spaces when it is swabbed on.

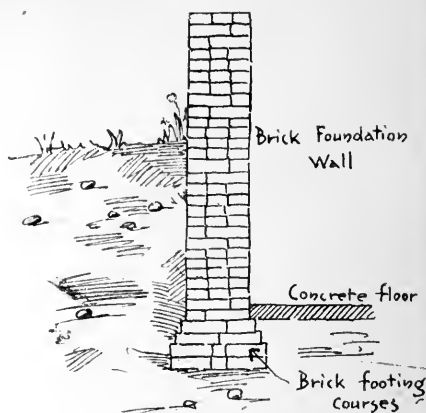
Before this, when first ground is broken, we must see whether the top soil is worth saving, and whether we shall have any use for it. If we are going to set our house well out of the ground, and deposit the earth out of the cellar around it, forming a slight artificial elevation, we shall need some soil to cover the bank of fresh earth; and if we have to cart it from a distance it will cost far more than if we can use this at hand. We will therefore have it scraped together into one place, or, at most, two, not into a dozen little heaps which are sure to be mixed with the



Draining with trench.



Stone foundation wall.



Brick foundation wall

other excavated earth and eventually lost.

When it comes to the building of the cellar walls we will have them of stone by all means, if possible, in preference to brick; stone both for appearance and for utility. In many places this is easily done, stone usually abounding if it occurs at all, and being usually available in quality for such rough work as country-house cellar walls. Even shaly rock unavailable otherwise makes a good concrete wall with proper cement. Stone even of inferior quality is less permeable to water than brick, while the appearance of a rough stone wall is most pleasing. But if stone cannot be easily got we must use brick, and we shall do well to use the hardest brick we can find. Brick are classed as hard and soft, according to their position in the clump when they are burned. Those nearest the fire are often blackened, sometimes twisted out of shape, but always much harder than those more distant from the fire. Houses have been wholly built at times with very much blackened and distorted brick with a very picturesque effect. For cellars they are much to be preferred and for all constructional work where hardness and strength are needed.

Whether of brick or stone the wall is usually begun by what is called a footing course of large, flat stone, somewhat wider than the wall itself; or, in the case of brick walls, four or five of the first courses are laid with a

slight projection, as shown in the sketch. In heavy buildings, brick or stone buildings, this precaution is needed to distribute the weight over a wider surface of the soil; but in frame houses the weight is not great enough to need such measures, at least in the case of a twenty-inch stone wall, which is quite wide enough in itself for a firm bearing. Brick walls, however, being usually not more than twelve inches thick, sometimes as thin as eight inches, require widening at the base. In any case the footings are of advantage in keeping out rats, which will burrow downwards until they reach the projecting shelf when they relinquish their attempts, their intellects not being capable of picturing the situation further.

The cost of footings, coal-tarring, broken stone filling and such measures is increased by the necessity of digging a larger excavation than would otherwise be necessary.

So we have fairly started with our cellar wall, standing it on the ground, a thing which seems to surprise many people. Do you really stand your buildings right on the ground? I have often been asked by the uninitiated, apparently under the impression that piles or something of that sort would be the proper thing.

To return to our cellar wall which we left in an unfinished condition. We will build it, of course, with cement mortar, the advantage being that it is far less permeable to water than is

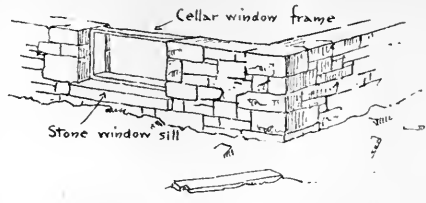
plain lime mortar. Cement, a material of modern discovery, is invaluable in construction. In former times the mortar commonly used was made of lime and sand, mixed together with water in the familiar way. Even then, however, it was well known that certain limes were to be preferred, that they set more quickly and became harder, some would even become hard under water, while ordinary lime will dissolve and disappear.

The peculiarity of these hydraulic limes, as they are called, is that they will not slack like ordinary quicklime, but have to be tediously ground to powder. Finally a limestone was discovered which, when burned and ground and mixed into mortar with sand and water, set so quickly and so hard that it was classed no longer as lime, but was called cement—the celebrated Roman cement of former days, though little used now. So great was its success at the time that attempts were made to imitate it by artificial mixtures culminating in the invention of Portland cement, so-called, not from the place of manufacture, but because it was used to imitate Portland stone. The essence of the invention was the mixing of a certain proportion of clay with ordinary limestone before it was burned, and burning clay and limestone together. Simple enough in principle, but astonishing in its results. Without cement the hydraulic engineering of to-day would be impossible, nor would eight or ten-story buildings be practicable, not to mention those of fifteen or twenty stories.

Since then various natural cement stones have been found, our Rosendale cement, the most familiar to us in New York; but in all the principal components are clay and lime in certain proportions, whether occurring as a natural product or mingled by art.

The foundation walls built, we have disposed of the mason-work for the present, for it is a frame house that we have chosen for our example.

While the cellar walls have been in progress the timber for the rest of the house has been arriving upon the ground and the carpenters have been at work preparing it.



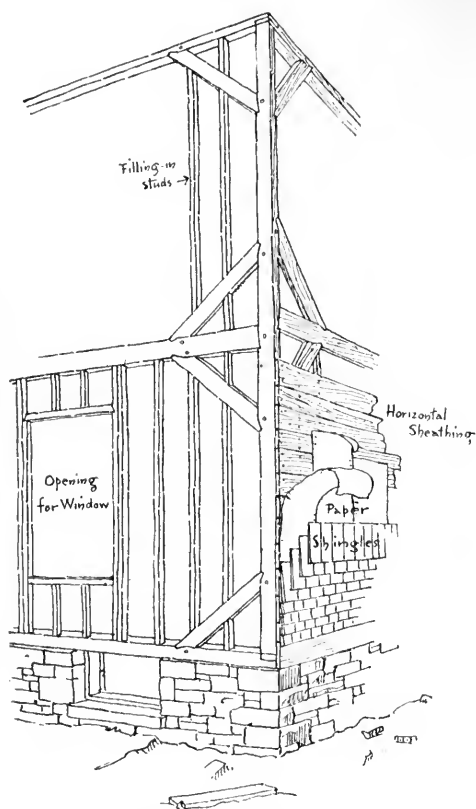
Foundation wall ready for superstructure.

The kind of timber depends upon the locality; in Georgia and Florida, the home of the Southern yellow pine, that is generally used for everything; in other Southern states, as far north as Virginia, the so-called North Carolina pine is used. Hereabouts white pine was once frequent and is, when available, a very admirable wood for the heaviest truss work or the most delicate carving; it is becoming too expensive now for general use.

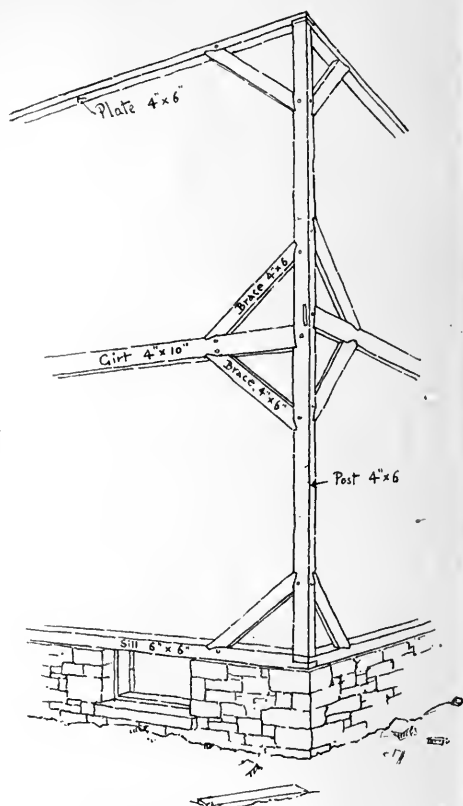
In place of it spruce is commonly used, a good enough material, its chief fault being a disposition to twist in drying. I have seen a ten by ten-inch post about ten feet long twisted so much that the top stood with its sides at angles of forty-five degrees with those of the foot, quite an eighth turn in the length. Hemlock is used in some places almost exclusively. It is good enough for ordinary house construction, although too brittle for heavy work; it has a pinkish tinge and peculiar pleasant smell, by which it is easily recognized.

On the whole we judge it best, as is frequently done, to make the posts, sills, plates and floor beams, and perhaps also the rafters of spruce, using hemlock for the filling-in studs and interior partition work—all of which is Chaldee to the beginner, but simple enough after you know, like most things.

There are two principles of house-framing in use, both of which are shown in the illustrations; the first is called braced framing, the second balloon framing. Each has its advantages. In either the starting point of the whole is the sill, a line of timbers running around the whole outline of the ground plan of the house, securely fastened together at the angles, halved together usually and usually four by six or four



Elements of braced frame construction.



Framing of braced frame construction.

by eight—*inches of course—in size.* Upon this in the braced frame stand the posts at the corners and perhaps intermediate posts will be required. These are also at least four by six, for a very large house four by eight. These posts are joined together at the top by another horizontal four by six piece, called the plate—wall plate is its name in full.

Such a construction of course could not stand, but would sway and fall at a breath were it not for the pieces set in diagonally called braces and characteristic of this method of framing. If there are intermediate floors—in our case there is one, often there are more—other horizontal timbers called girts must be placed to carry the floor beams. I suppose it ought to be both spelled and pronounced girths, but the carpenter calls them girts. The same orthoepic dilemma occurs

with the word sheathing, which the carpenter calls sheathing. I never quite know what to do; usually vary my pronunciation according to my audience, particularly when the audience is of mechanics and it is important to make myself understood, but I draw the line at cornish for cornice.

In between the posts are set smaller pieces as shown, filling-in studs, three by four or less in size, and over the whole is nailed a covering of boards, not the clapboards or other outside covering, but rough boards called sheathing boards.

The balloon frame dispenses with girts, or girths if you will, posts, plates, braces and all these paraphernalia. simply sets up a line of sticks, or studs to be properly technical, and to these the sheathing is nailed, not horizontally as before but diagonally, forming the strongest kind of bracing possible.

Then to carry the floor beams of the intermediate stories, we simply nail a strip along the inside of the studs at the proper height, a very thin strip suffices, one inch thick usually, and the studs are notched to receive it, so that it may not project beyond the plastering, and so that it may have a strong bearing.

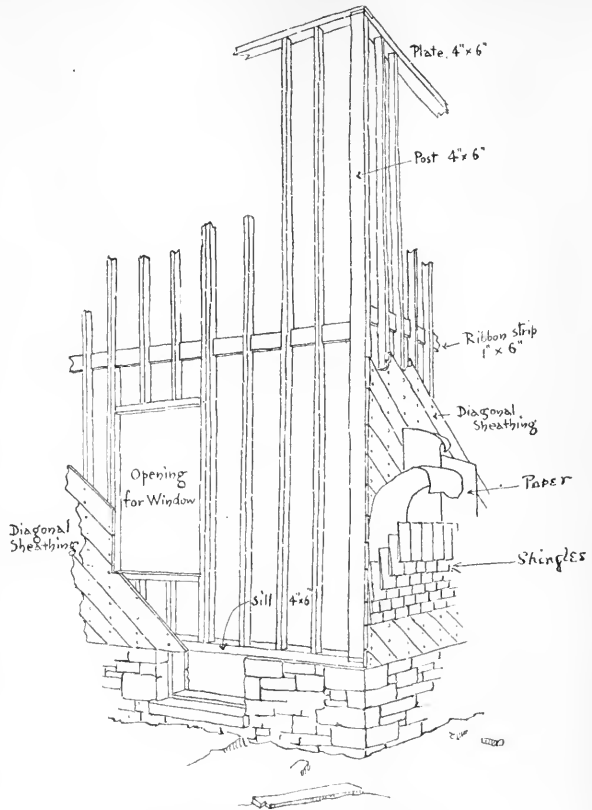
This ribbon-strip, as the carpenter calls it, is the weak point of balloon framing; not weak for carrying weight, for it is amply strong, but in case of fire it does not present the obstacle to the spread of the flames that the girt of the braced frame does.

Still, even the braced frame is so eminently combustible in its nature that I do not give this objection much weight; with proper fire stops either frame can be much improved.

We have adopted a combination of the two, using posts and girts, but placing our sheathing diagonally instead of bracing, a compromise that is often used. After the frame is completed and sheathed, the rafters of the roof set and also sheathed, and before the final exterior covering, comes the question of protection from the cold.

Boards alone are of no use. Through the cracks the winter wind howls, and a house with no other protection is little better than out-of-doors. I once lived in such a one, and with the kitchen range three feet away, on one side, and the dining-room register three feet away, on the other, the very bread used to freeze solid on cold nights.

Quite the usual thing, and a very efficacious thing, is to cover the sheathing boards with building paper, one or two thicknesses, before the shingles or clapboards are put on. Indeed the cheaper style of builders' house often has paper alone nailed to the studs, no sheathing at all, a miserable makeshift, and one of the invisible points wherein



Elements of balloon frame construction.

a well-built house excels an ill-built one. Then if we want to have still further protection we may build in between the studs with brick and mortar, or we may cut in lath and plaster upon them — back-plastering it is called, either method making a very warm house. Anything more than good paper is an unusual precaution, and not to be expected without increasing the cost of the house. There are plenty of little details into which I cannot enter here, pointing around sill and windows, beam filling with brick and many other such matters, all of which improve the quality of a house, are entirely invisible and unappreciated by the unprofessional, and unobtainable if a minimum price is insisted upon, because they all cost something. If you employ an architect don't demand the biggest house possible for your money; leave some margin for quality and you will never regret it.

As soon as the sheathing is on, the window frames are set in place. These are usually "box frames," that is, provided with a pocket or box for the weights required by the ordinary "guilotine" sash. There are various little refinements, known to the architect but not to the owner, in these constructions: The vertical pieces—called pulley styles—may be of Georgia pine, oiled instead of painted, because paint is sure to be rubbed off by the sliding sash, the parting bead may be of the same; there may be introduced a "hanging parting strip" to keep the weights from striking against each other, or all of these things may be dispensed with and the whole built of white pine painted, which is the ordinary method, and quite good enough for ordinary houses.

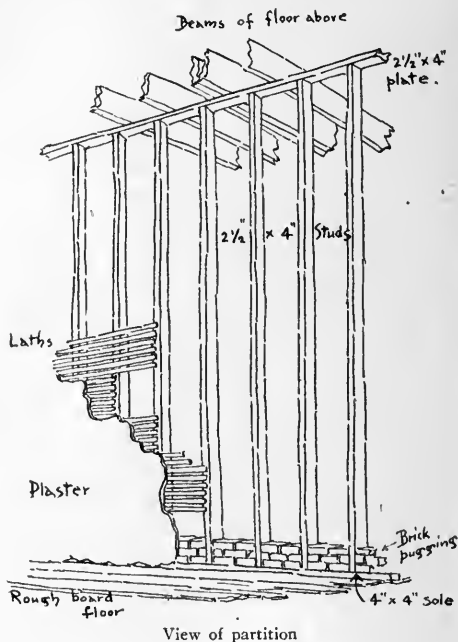
The building-paper sheathing must extend under the window frames, especially as we have determined to dispense with any other protection from the weather. We lay this over the whole exterior, roof and all, in double thickness. There are many kinds of building paper in the market and it is hard to know which to choose, as it is always covered up immediately so that its durability cannot be determined by observation. As far as I can tell from samples kept in the open air the "waxed" papers are as good as any, but they are not waxed with wax but with some petroleum product: the "parchment" papers—the genuine ones, seem to be very good and there are plenty of others.

Upon this is nailed the outside covering, in our own case of shingles all over both sides and roof. The roof shingles are sometimes, indeed usually, laid upon strips called roofing lath, set at the proper distance apart on the rafters, and such an arrangement tends to prolong the life of the shingles, by permitting them to dry easily on the under side. I prefer, however, to put solid board sheathing and paper under the roof shingles as well as those on the side, because it makes the house warmer in winter and cooler in summer. Moreover, if cypress shingles are used, decay is not to be apprehended.

In connection with the shingling of

the exterior the outside finish and gutters are put on.

As soon as the outside framing is done, and while the operations so far described have been in progress the framing of the floors has been done and the partitions set upon the rough under floors.



The floors are supported by beams usually of spruce, sometimes of hemlock; if of the latter, which is a weaker material, they must be a little stouter. Three by eight or three by ten are frequently used; but, although floor beams are mostly sawed three inches thick, two inches is quite enough for ordinary houses, and two by ten is stronger and more economical than three by eight. For spans up to twelve feet two by eight does very well even if of hemlock; beyond that, up to sixteen feet span, two by ten will serve our purpose; from sixteen to twenty feet use two by twelve, and beyond that three by fourteen—two by fourteen would be amply strong, but a beam of so great depth without more thickness is apt to wobble sidewise. Indeed, all beams are liable to twist and bend sidewise, and partly to prevent this twisting and bending it is usual to put in what is

called cross-bridging, short pieces set in diagonally forming a series of X's. These also stiffen the beams very much; not that they add to the strength really, but they prevent one beam bending independently; compel the adjoining beams to receive a part of the weight that may be placed upon any one beam. This cross-bridging is one of the few devices that add very much to the quality of a building and do not add to the cost appreciably, so we need not spare, but may put lines of cross-bridging about six feet apart everywhere. The framing of the floor beams is made necessary where openings for any purpose are required in the floors, as for stairways, registers, and for chimney stacks to pass through. Naturally the cross beam on which the others rest, called the "header," must be proportionately stronger; and so must the beams upon which the header rests. These are called "trimmers" and, with the headers, are usually four inches thick or more, according to the size of the opening and weight to be carried.

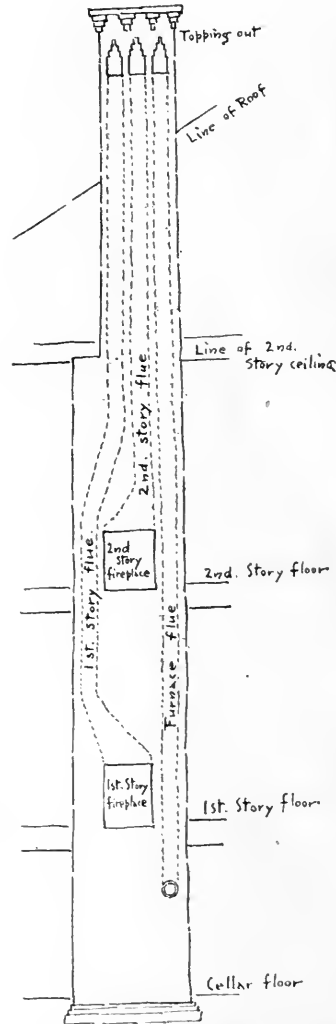
As soon as the beams are in place rough floors of hemlock or other boards are laid. These should be of uniform thickness and well nailed, but knot holes, cracks and such defects, within reason, do not matter. This remains the only floor until all the rough work of the building is done: until the chimneys are built, the partitions set, the iron plumbing pipes in place and the plastering finished; then another floor of boards of better quality is laid over it; almost the last thing done in the finishing of the building.

Within the past recent years this system of double flooring has become a matter of course in and about New York; formerly, even in the best houses, single floors were the rule. Those were the days of floors carpeted all over, with carpets cut to fit each little nook.

Nothing then was needed but a white pine floor, soft, easy to drive tacks into and pull them out of: it mattered not if there were widish cracks between the boards, nor if the boards themselves were somewhat dis-

figured with mortar and boot-heel marks—it would all be covered up.

But now we must have floors bare, or capable of being bared, if Comstock will pardon the expression. So it has come about that we now lay a rough floor first, upon which stand the partitions, and upon which all of the plastering and rough work is done; then, after all else is finished, a grooved and tongued floor, of narrow boards, the narrower the better and the more expensive, and between this and the rough floor, by



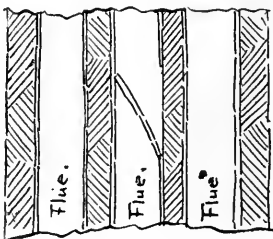
Arrangement of flues.

preference, a layer of soft deafening paper, quite a different thing from the hard sheathing paper.

Before this, however, just after the rough floor is laid and the partitions set, comes the work of plastering. And before plastering begins is a multitude of matters to be attended to. Most important among these is the building of the chimneys. These should be of good hard brick like the foundation. Soft brick are often used for chimneys by the poorer sort of builders, but are very dangerous, as after a while the soft brick disintegrate and fall to dust. I have seen a hole a foot square in an old chimney. Then comes a mysterious conflagration and stories of a defective flue. Yet I have heard a builder assure an owner that the soft brick would soon become hard under the influence of the warmth from the fireplace!

Next in importance to the quality of the brick is the smoothness of the inside of the flues. This is obtained by removing with the trowel from the inside joints the mortar that squeezes out as each brick is laid—struck joints, it is called. Sometimes, and in some localities, the flue is plastered with mortar on the inside; the defect of this method is that after a while pieces of the plastering are apt to become loose and, falling over diagonally, may block the flue completely.

The very best thing is to build in vitrified clay pipes, either round or



Interior of flues.

square work very well, all the way to the top. Such were unheard of formerly, but now are frequent. They will cost about ten dollars a flue and



Plan of fireplace, with pipe linings to flues.



Plan of fire-place, with 4-inch walls to flues.



Plan of fireplace, with 8-inch walls to flues.

may be included at least for the furnace flue and perhaps also for the range flue in the smallest houses. For ordinary fireplaces pipe linings may be dispensed with where cost is of prime importance, as the heat from such open fires is rarely great enough to be dangerous. Nor is it usually essential to build the walls of these flues more than the regulation four inches. Undoubtedly there is a chance that a spark may penetrate an open joint, but with reasonably good workmanship such a chance is remote. Moreover, if we must be full-cautious, it is cheaper and more efficacious to build in our clay pipes in all the flues, rather than to double the quantity of brick.

It is highly advisable, however, that the framers should frame proper openings for both chimneys and hearths and should not by any chance stick a beam squarely into a flue, as I have seen them do in defiance of drawings and orders.

Before the plastering can begin the partitions must be put in place. Ordinary partitions are nothing but a row of perpendicular "studs," three by four

or more frequently two by four inches in size, upon both sides of which laths are nailed and the plastering upon each side completes it. Often, even in good houses, these studs stand directly upon the rough floor, but it is better to let them stand upon a stud laid horizontally; there is a partition head of a similar stud at the top and the vertical studs are simply nailed top and bottom.

Some kind of filling-in for partitions is much to be desired but none is usual. The open spaces are very objectionable, both in the outside walls and in the inside partitions; they transmit sound, are the usual cause of destructive fires, and make a delightful retreat for rats and mice. The only available remedy that I know of would be to fill in solid between the studs with mineral wool; although the weight would often be an objection and the cost, used so lavishly, might forbid. Some kind of very light porous blocks, made just to fit between the studs and plastered upon direct might be devised, but is not used; perhaps, too, such a filling might induce dry-rot in the studs. The most available alleviation is a filling-in of bricks and mortar between the studs, three or four courses deep; probably mineral wool to the depth of eight or ten inches would be as good.

Before the plastering begins, too, we must see that the iron waste pipes for the plumbing are in place, unless they are to be exposed outside the plaster, on the whole a better method; the gas pipes must be in and conduits for electric wiring, if we are to have anything of the kind; speaking tubes, and tubes for mechanical bells or wires for electric bells, or, better than either, pipes for pneumatic or air-bells must be put in place.

These pneumatic bells, where mechanics who understand them can be found to put them in place, are most convenient. They operate by a push-button, as does an electric bell, and transmit the impulse through a small leaden tube to the more or less distant bell. There is no bother about renewing batteries, but they work well for years without any attention whatever. The delicate lead pipes are the only point that requires care, as plasterers

and carpenters are very apt to damage these by accident; they are best put inside the partitions out of the way, but in case of necessity may be put into grooves in the rough plaster, or may be carried behind mouldings or in angles.

When the plastering begins the house is handed over for a month or more to a deluge of filthy mud.

The period of plastering is always a tedious and uninteresting hiatus in the construction of a building. Each coat—there are usually three of them—requires some days to dry before the next can be put on; altogether a month passes during which the building is an unpleasant thing to superintend.

Much of all this can be avoided by using Windsor cement, or other of the recently brought-out hard plasters; these set quickly and shorten the job of plastering to a quarter of what it else would be.

These are made now at a price that brings them as low as common plaster, so that many plasterers are willing to put on the improved plaster without increase of price.

Hard plaster requires skillful handling. Sharing some of the qualities of plaster of Paris, it sets with great rapidity, so that, contrary to the practice with lime and sand plaster, it must be mixed in small quantities and put on at once. Country plasterers especially, being by nature "agin" new-fangled notions, are loth to do anything otherwise than as they have been accustomed to do, and are apt to let the Windsor cement set before it is applied; then they try to "temper it up" with more water and of course fail to make a satisfactory job. When a plasterer can be found who understands it and is willing to use it this invention of hard plaster is one of the most important of recent improvements in the building art.

In Western cities, where local prejudice against new methods is not so strong, I have seen beautiful plastering and much cheaper than usual. It was done with a single coat of brown mortar, troweled to a smooth surface and with no finishing coat, nothing but a coat of distemper color, commonly

called calcimine, the walls in one tint, the ceiling in another. I have tried more than once to have such work done here and have uniformly failed, because nothing would induce the plasterers to regard the first coat as other than a rough coat, or to bring it to the necessary smoothness of finish.

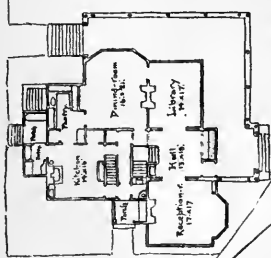
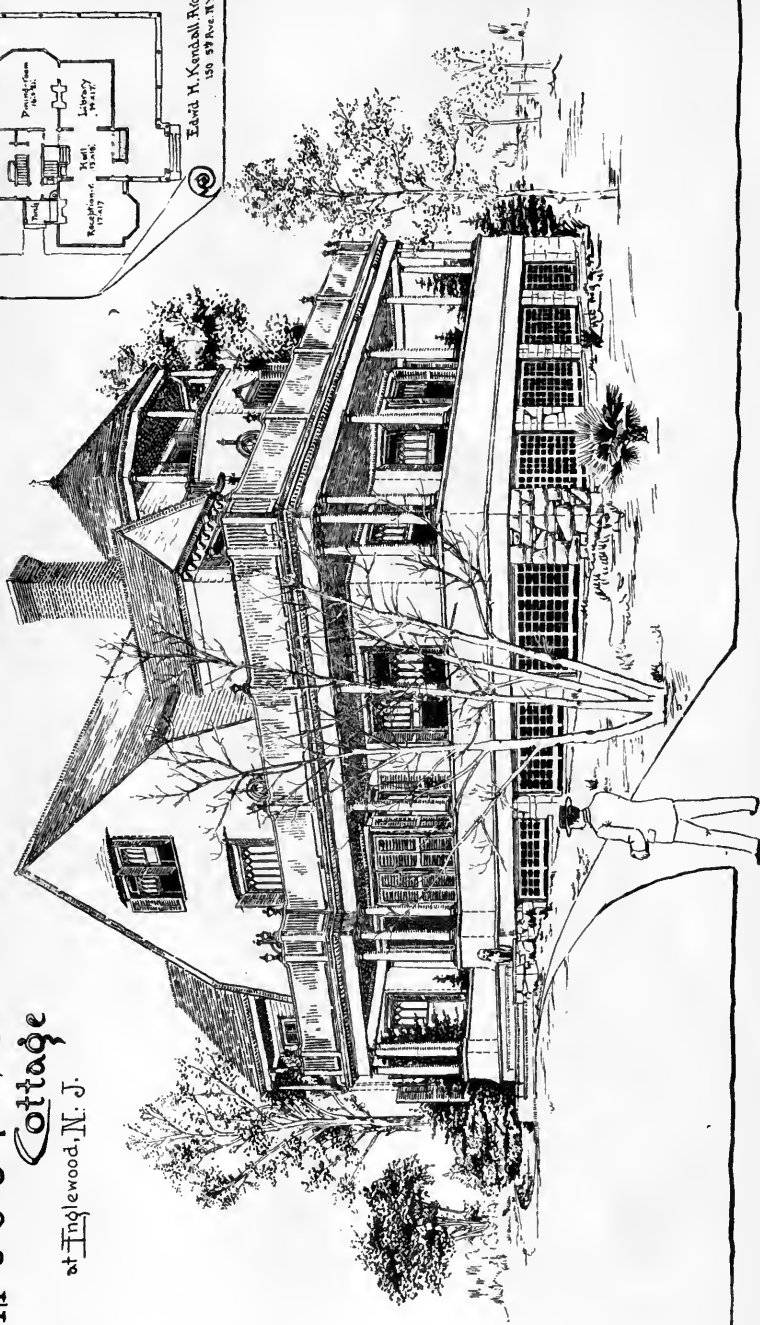
If richness of ornament can be

afforded hardly anything gives us a better opportunity than the plastering, although the heavily-moulded cornices and stock pattern centerpieces of the past have been discarded, delicate renaissance friezes, or even elaborately sculptured figure groups, if placed well before the fracture line, may be admirably done in plaster.

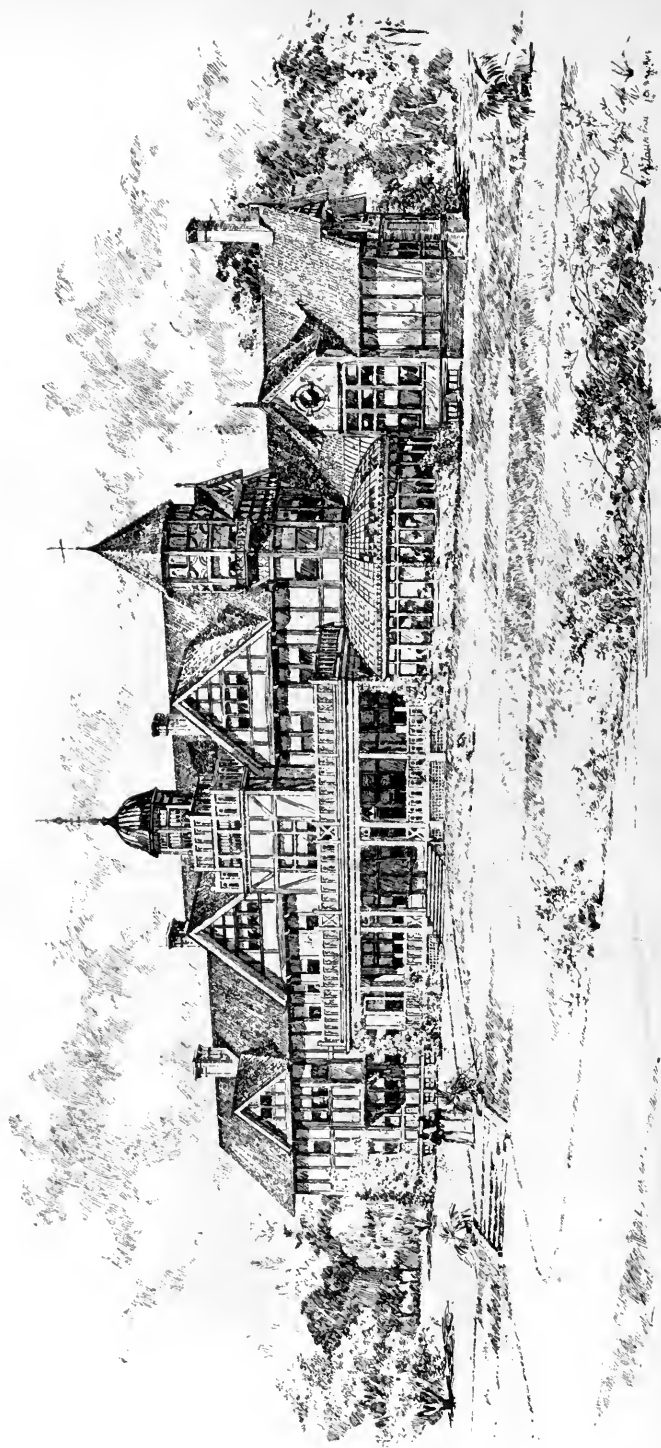
John Beverley Robinson.



Mrs J.O. Clephane's
Cottage
at Inglewood, N. J.



East M. Kendall Right.
150 99 Ave. N.Y.



COUNTRY RESIDENCE.

James Brown Lord, Architect.



Carlsruhe, Germany.

VILLA.

G. Ziegler, Architect.



ENGLISH VILLA.

Lord Alfred Waterhouse, Architect.



HILL HOMESTEAD AT RIVEREDGE.

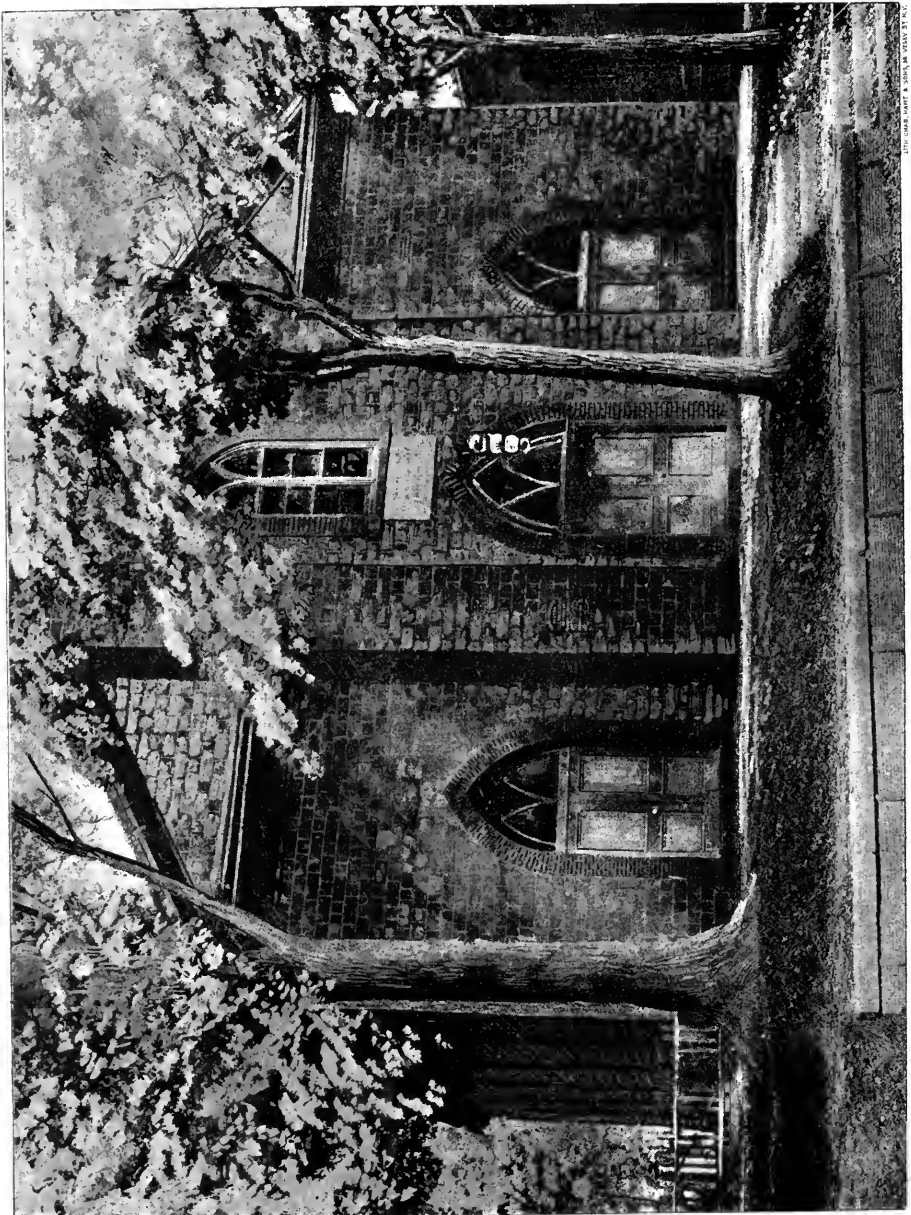
COLONIAL BUILDING IN NEW JERSEY.



LL nations have their beginnings in architecture. Even the United States, a nation that in almost all its material resources has sprung from the wilderness during the lifetime of persons now living, must confess to a probationary period in the building art; and it cannot be claimed that we have even yet escaped to conditions of very complete independence. He will need to be an exceedingly young man, and a man of restricted opportunities for observation, who can truly say that he has never seen an example of the American log cabin. Half of our most self-assertive statesmen have lived in just such structures, and a great many of our millionaires were cradled in log cabins, if it can be literally said that they had cradles. So nearly universal is the knowledge of the log cabin that any attempt at describing its structural features must be regarded as reminiscent rather than newly instructive.

The log cabin, it will be remembered, was constructed mainly of unhewn logs cut from the forest in suitable lengths, and dragged to the building site, usually on the edge of a clearing, by a

yoke of oxen and a log chain. There they were roughly dove-tailed at the ends with a woodman's axe, and then, either in a square or rectangular form, piled one above the other to an elevation regulated somewhat probably by the corporal proportions of the builder. A proprietor who carried his head at a cranial elevation of six feet would demand an eight-foot facade. Higher than eight feet, on any ordinary occasion, it would have been both difficult and useless to skid the material, and having reared his walls to this elevation, roofed them over with split logs, or possibly with bark stripped from the trees, carefully filled in the crevices with a natural plaster of mud, and erected his chimney, composed sometimes of stones if they were abundant but sometimes, also, of sticks, the builder thought himself in the possession of a shelter fit for the habitation of any first settler. Nevertheless, there were more ambitious examples of log building. There were houses constructed of hewn logs, and, after having been carried to an elevation of two stories and provided with roofs, the interiors were sub-divided by partitions and made suitable for the use of large families. The rooms, too, lathed and



THE LAND OFFICE & JOHN W. STONE ST. N.Y.

ENTRANCE TO THE FIRST DUTCH REFORM CHURCH.



THE CHURCH OF THE FIRST DUTCH REFORM CHURCH.

Built 1682.

THE FIRST DUTCH REFORM CHURCH.

plastered, were decorated with mantels and more or less elaborate window and door casings. As to the exteriors, they were clapboarded, and, when provided with cornices, porches or verandas, they exposed as few of the features of the log cabin as any town or suburban dwelling constructed of wood. But these examples only illustrated a developing civilization. They indicated a step in the evolution of architecture in America. But they were chiefly valuable in illustrating psychological phenomena. They demonstrated the difficulty men have in escaping from even the log cabin without following the regular channels of evolution. They had little structural significance, however, and are hardly to be classed among our beginnings. The proprietors of such structures would have been affronted had they been suspected of living in log houses.

The true beginning of American architecture was the one room and one-story log cabin, sometimes containing a garret under a peaked roof, reached by a ladder, but often, also, not contributing even this much to domestic convenience. Simple curtains of some coarse fabric, or home-made blankets, sub-divided the interiors into sleeping quarters, and the walls or supporting posts, when hung with dried corn or dried fruit festooned on strings, were sufficiently well decorated for the tastes of the occupants. Such were the dwellings of our forefathers, and, as hinted but now, such were the dwellings to which much of the infancy of the living generation was no stranger. Indeed, the much traveled man of even the current period cannot look upon the log cabin as an antiquity. He will recall too many examples that he has seen among mountain fastnesses and on the confines of civilization to permit him to regard the apparition of such dwellings when conjured up as anything in the least suggestive of a resurrection. Since its first settlement this country has been able to furnish an example of civilization and barbarism marching hand in hand, of a civilization of the highest order, and of a barbarism about equally pronounced. Recent political events, too, are rais-

ing a question as to which of the two companions can show the quickest paces and the longest endurance. But this is not a peculiarity of the United States. The match between civilization and barbarism has been made in all countries, and we are distinguished above other nations only in having given the barbarian the fairest opportunities for the development of his indiosyncrasies, and the best chance to win. In some other countries the barbarian builders are strangled; but in this country they are often promoted along with the barbarian statesmen.

To reverse the sacred dictum, then, which reads, "as it was in the beginning so it is now and ever will be," and to make it read, "as it is now so it was in the beginning," we may trace the line backward and find that this country has never been altogether barbarian in architecture, notwithstanding the log cabin. Men came to the American continent when it was first offered for settlement from many different climes, and the forces of several rival nations contended here for control. England, France, and Holland sent the echoes of their artillery along the wooded shores of our seas and rivers, and even Germany, a nation that takes to colonial enterprises about as naturally as it takes to salt water, once succeeded in effecting a lodgment in at least one of our incipient States. The people who came here, too, were rarely of the lowest order, men and women habituated to the shelter of cabins. They were often persons of considerable culture and refinement, and they brought with them various architectural ideas which could not fail of soon taking form in at least the more highly-favored sections. Hence, always omitting the log cabin from our catalogue of styles, some of our earliest architecture, examples of which are still standing here and there throughout the original thirteen States, displayed a great deal of artistic feeling, and a pretty thorough knowledge of the principles of design. On account of the different nationalities represented by the first settlers, too, there is a wide variety. There is a pronounced difference between the examples to be found in New England, New Jersey,

Pennsylvania, Maryland, Virginia, and the Carolinas.

But even among the early settlers from England there was a sufficient difference in social traits to lead to a very pronounced difference in architectural taste. The offshoots of the English cavaliers who settled in Mary-

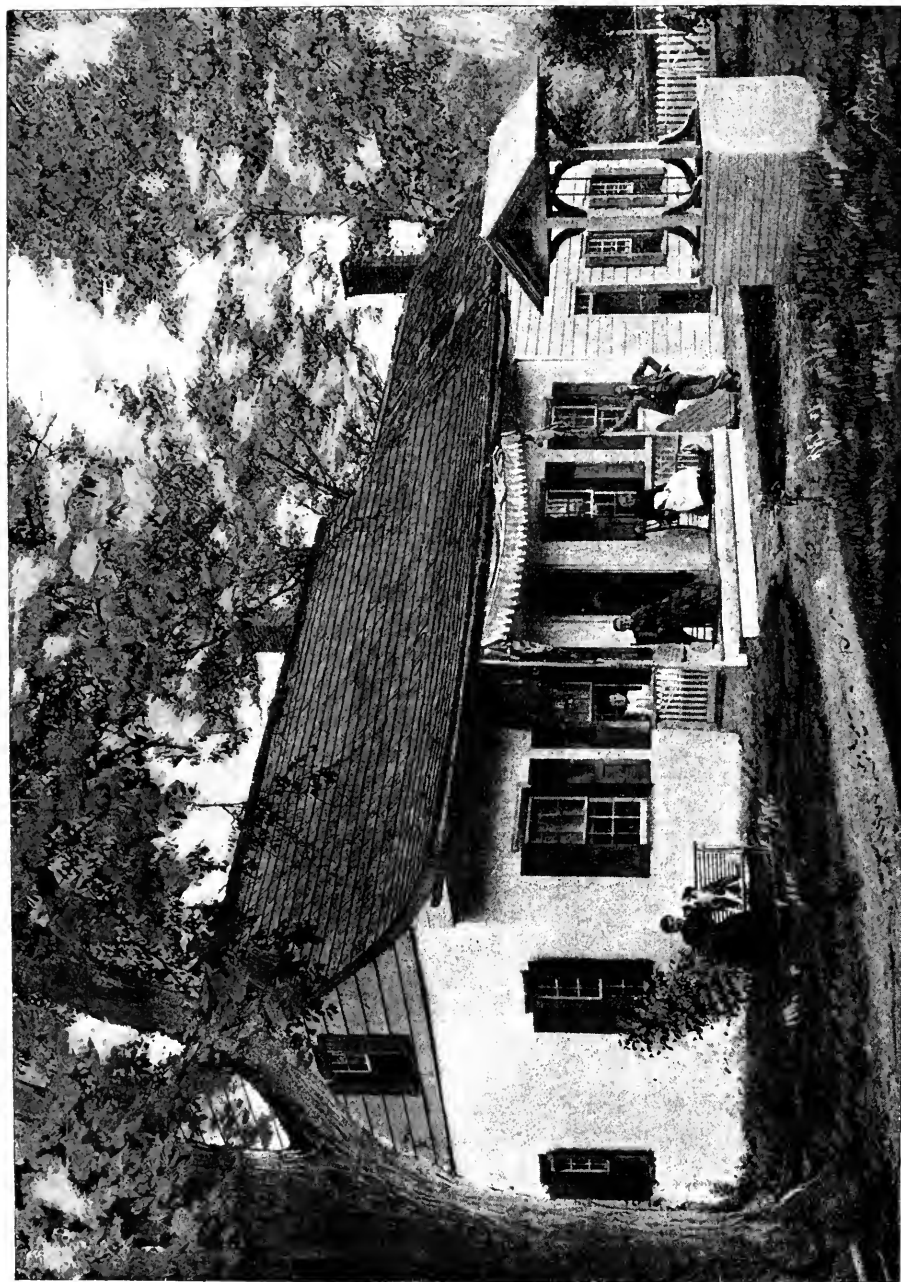
land lasted long enough to give a distinctively more modest character to their architecture than was manifested in the more congenial atmosphere of the South. Readers of this magazine will recall the illustrated article on the Colonial architecture of Anapolis, published some time ago (see Vol. I., No. 3),



FURLEY PLACE, 112 YEARS OLD.

land and Virginia differed radically from the roundheads, or Puritans, who peopled New England. The former were men of æsthetic training and they were given to social enjoyment. They seem to have created and maintained their homes with a view as well to the entertainment of guests as for domestic enjoyment. But the latter were men of the most severe simplicity. They would have looked upon a picture as vanity, and upon a house constructed after any lavish and ornate plan as an abomination. The abnormal piety of the New Englanders did not prove to be enduring. But it

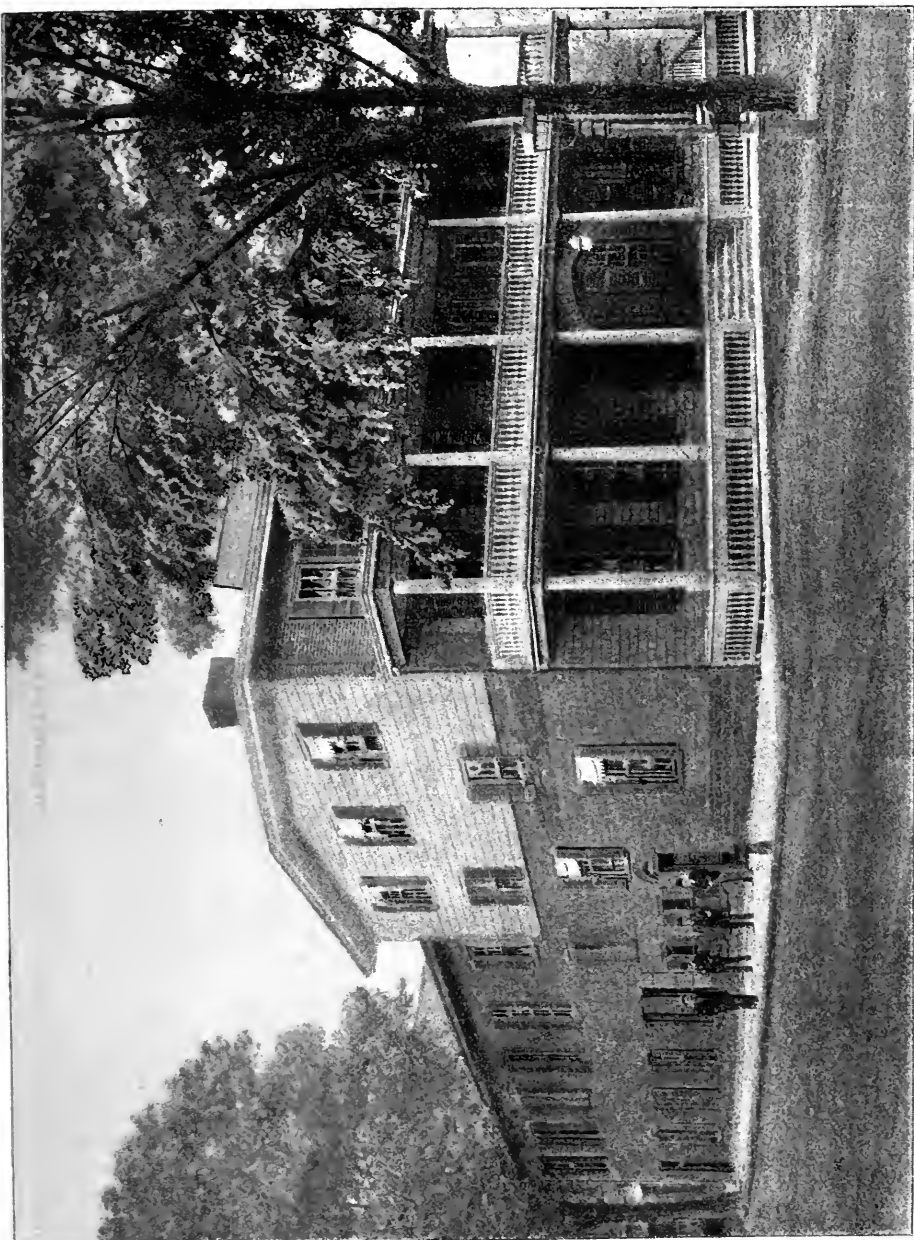
and, if not familiar with the old architecture of Maryland, they were doubtless surprised at the classic suggestiveness of the pictures. But the examples furnished by Anapolis are by no means isolated. The writer recalls in an old plantation house in Prince George's County, Maryland, built so long ago that it was haunted, some examples of carved wainscoting which few architects of the present day would undertake to rival. Indeed, executed lovingly by hand with intelligence and taste, the work was beyond the rivalry of any carving machine. The difference between the architecture of Mary-



Built 1721.

WASHINGTON'S HEADQUARTERS.

Wm. Chan Hart & Sons, 38 Vesey St. N.Y.



THE CHURCH, EAST & SOUTH, IN 1884, 17 P.

THE MANSION HOUSE.

land or Virginia and of Massachusetts was as great as the difference in their religion. In the South country the people were all Catholic or Episcopalian. But at the East they would have been Beelzebub himself before they would have been either the one or the other. The two sections were not, therefore, of precisely the same persuasion in anything; and though it is not meant to be said that a man's religion is responsible for his taste, it is possibly true that his æsthetic sympathies or taste is responsible to a greater or less degree for his religion. The people who planned the Colonial architecture of Maryland and Virginia would have felt more at home in a ritualistic cathedral than in a Quaker meeting house.

It is to New Jersey, however, rather than to either Maryland or Massachusetts that we must look when we wish to find the type of Colonial architecture that seems most original to our Anglo-Saxon eyes, and where the differences between Massachusetts and Virginia have been most successfully compromised. New Jersey, it must be remembered, or at least that portion of New Jersey which lies between the Hudson and Delaware rivers, was settled by the Dutch. It also made a part of the territory in dispute when England and Holland contended for the possession of the Hudson and its adjacent shores, and if the Dutch settlers did not prove themselves strong enough to maintain their independence after they were abandoned by the mother country, and traded ignominiously for the patch of wilderness in South America, now known as Dutch Guiana; they were yet strong enough to impress their civilization on the territory that they had pre-empted, and to erect enduring monuments of their intelligence and taste. We have no positive proof that the Dutchman ever constructed a log cabin. He may, or he may not have found it necessary to protect himself from the inclemency of the weather by some such contrivance when he first landed, but it is certain that he did not long remain so domiciled and that the dwellings by which

they were displaced, supposing them to have been erected, give evidence of a high degree of artistic culture. Dispersed through Bergen County, a territorial division which once extended as far southward as Constable's Point, on the Kill von Kull, and concentrated closely in that most delightful of suburbs, Hackensack, are still to be found many examples of colonial building, which suggest merit enough to be the foundation of a distinct architectural style. This assumption will be amply demonstrated by the pictures accompanying this article. In studying the different illustrations it will be seen that they contain suggestions which could be happily adopted in either urban, suburban, or rural architecture, a distinction which indicates very comprehensive faculties of architectural invention on the part of the designers. Not many years ago, for example, our architects went to France and brought home the mansard roof. Since that time, calling it the French roof, they have set up this seeming novelty on about every elevated point in suburban neighborhoods, and made it the crown of the edifice along almost entire streets in the cities. Evidently, they did not know that just over the Hudson River, in Hackensack, there is a better mansard roof, constructed nearly two hundred years ago, than anything they had succeeded in importing, and that the so-called mansard roof is really as Dutch as Van Blarcam. On the next occasion when our architects wish to go to Paris for an idea they will do well to go by way of Hackensack. They will do well also to go to Hackensack before going to England in search of the architectural aberrations which have perpetuated the reign of Queen Anne on these republican shores. What must be said here should be said modestly, but it should be said nevertheless. In everything except literary achievement, the Dutch civilization of two hundred years ago was superior to the English civilization; and in all departments of fine arts it was incomparably superior.

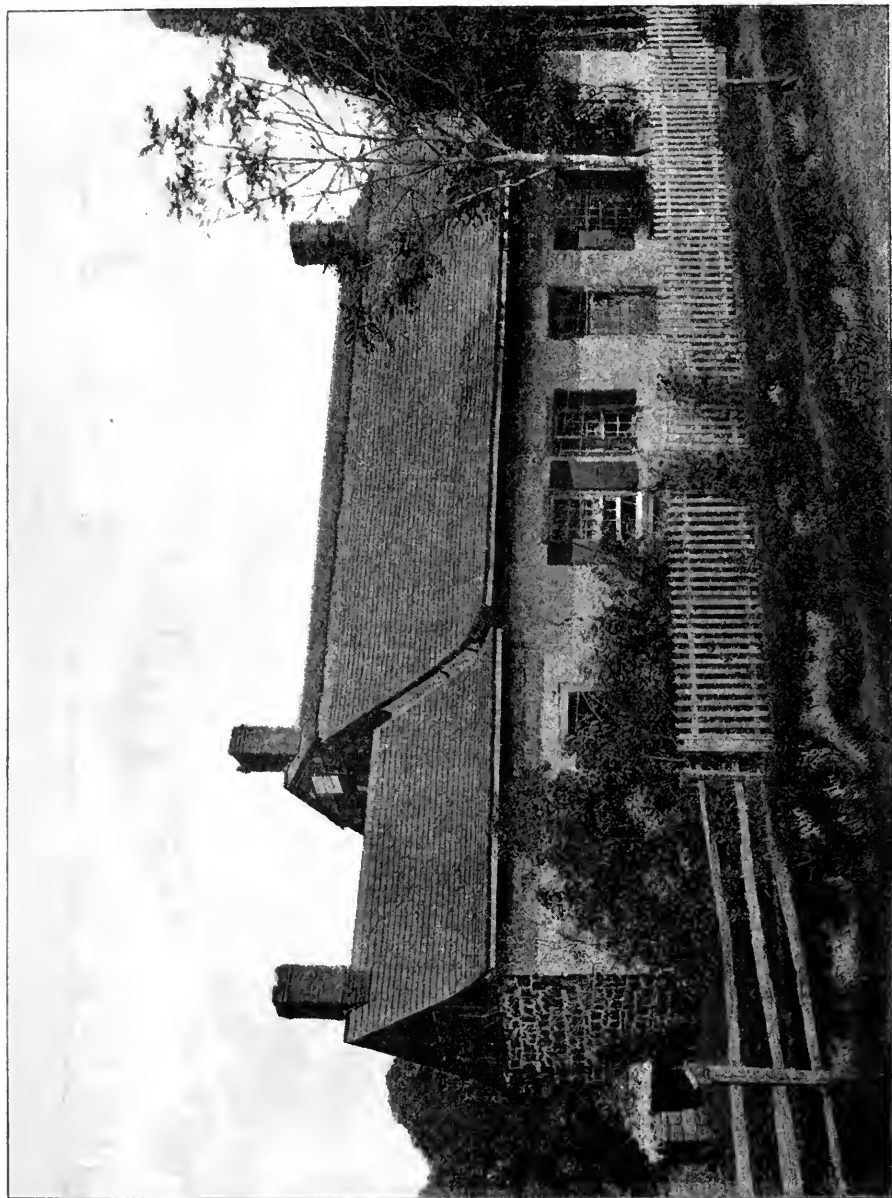
Readers may wish to know why Bergen County displays so many examples of colonial architecture while

in most other parts of New Jersey we may see only the usual display of buildings erected on next to no architectural foundation, and structurally suggestive of something which the builders themselves should look to outlive had they any reasonable expectations of life. The explanation may be found in history. In New York, and in most parts of New Jersey beyond the borders of his present domain, the Dutchman was outnumbered and conquered; but in Bergen County he was never conquered. He has maintained there his traditions and his control, and even to this day, in Hackensack, although the old village contains altogether too much that emanated from the Rosewater Land Improvement Company school of architecture, there still remains an indescribable air of antiquity which is both morally and artistically gratifying. It is morally gratifying because it speaks of reverence for whatever was excellent in the past; and it is artistically gratifying for the reason that it fosters the true spirit of architectural improvement, and refuses to abandon principles that are really classic in obedience to the dictates of mere fashion. This is the reason why Bergen County remains architecturally something like an oasis in the midst of a desert, and why Hackensack, a suburb which lies within cannon shot of the New York Post Office, but which few of our architects with their long-range vision seem to have discovered, possesses so many survivals of a type of architecture which should be adopted and developed in preference to anything else within reach. It is to be feared, however, that the architectural vandals have been led into this beautiful suburb, and given a too great latitude to operate in forgetfulness of the customs of the country. To say nothing of the new buildings which are often unworthy of notice, old buildings that became dilapidated have been remodeled in complete oblivion of the type of architecture which they represent. The improvements look sometimes like crab-apple grafts on cherry trees.

The church edifice, presented with this article, dates back to a period,

which, if not to be called quite prehistoric, is yet very remote for this continent. It was originally constructed in the year 1696, and it therefore lacks only two years of the end of its second century. True, the original building was destroyed by fire and the present church is a reconstruction; but it was reconstructed on the original lines. It has also been enlarged by extending the walls and roof at the end opposite the bell tower. But the enlargement, although interfering somewhat with the original proportions, was made in strict conformity with the first plan, and a sharp eye can detect the point of junction in the photograph. Externally, the building stands substantially as it was first erected. Observe the lines as they are brought out in all the perfection possible to the photographic art. The structure will doubtless look quaint to many modern eyes, but it is not quaint. If it creates an impression of artificial elegance, or quaintness, it is because the modern eye has been perverted by inartistic forms. True art belongs to no century and the lines of this church are symmetrical, delicate, and graceful. They are necessarily, therefore, entirely free from those eccentric perversions of proportion too commonly witnessed in much more pretentious examples of later church building.

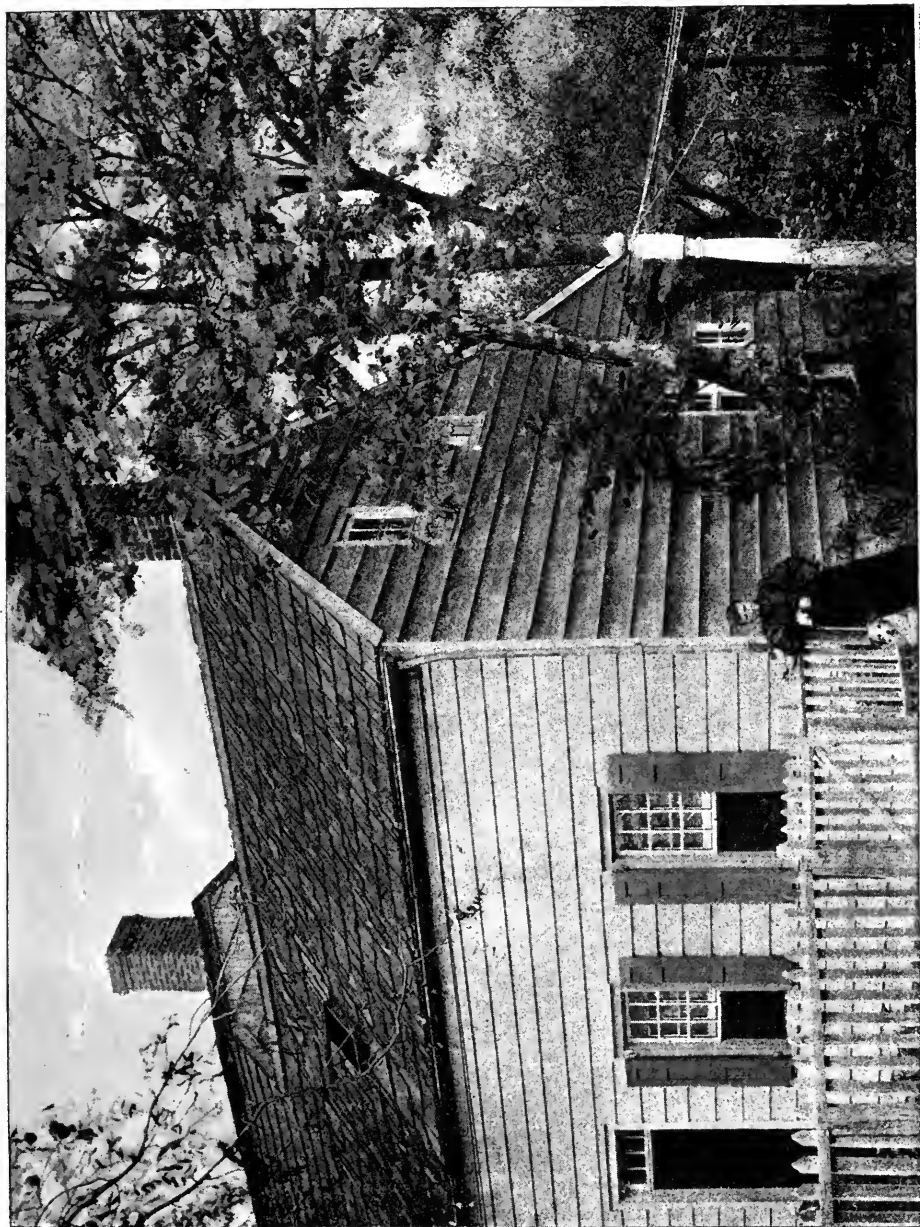
This is the kind of architecture that will grow upon the speculator. Impressing itself upon the æsthetic sensibilities, it educates and refines; and it is not a cause for wonder when we observe that the First Dutch Reformed Church, of Hackensack, still remains the most fashionable church of the village. Possibly the congregation may feel disposed to resent the implication involved in this observation. They may not be willing to admit that their fidelity to the faith of their fathers is due to an idolatrous devotion to anything merely external to their religion. But the inference is nevertheless flattering to their æsthetic instincts. After the enthusiasm which distinguishes the proselyting era of a new religious society subsides a little, no church can afford to forego the poetic charm and dignity that at-



THE ZABRSKIE HOMESTEAD. BUILT 1692.

Built 1692.

THE ZABRSKIE HOMESTEAD.



THE VANDERBECK HOMESTEAD.
Where Washington watched the retreat of the British forces.

JOHN LOUIS MAYER & SONS, 18, JEROME ST., N.Y.

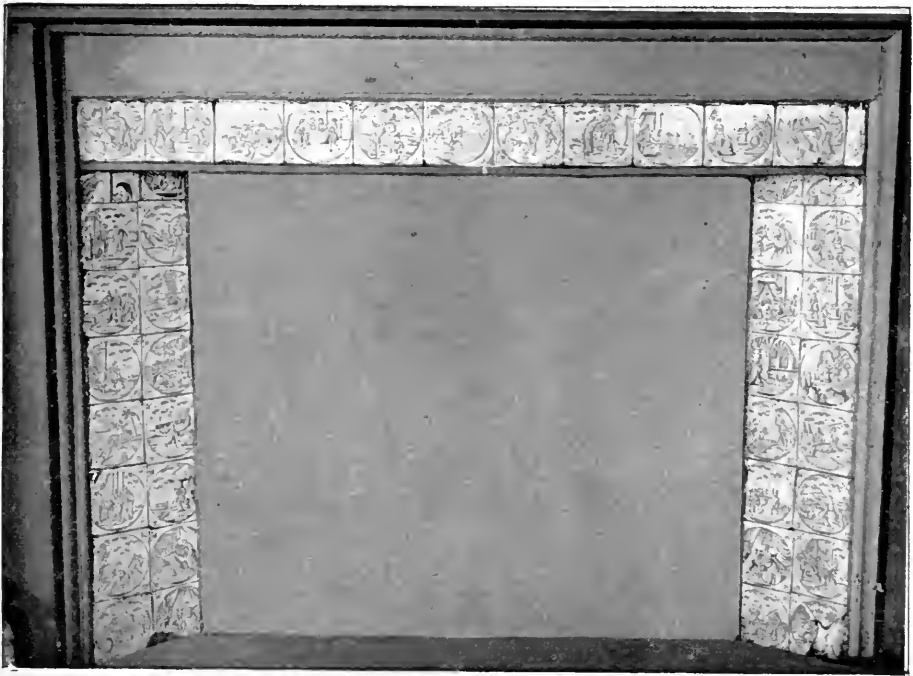
taches to architecture. The Society of Friends are learning this truth to their cost, even admitting that their decay may be in part due to organic causes too far-reaching in their consequences for discussion here. However potent for the salvation of souls religion may be, it is not always potent enough to save a religious society, composed of members strongly human in their instincts and desires, from dissolution. It is even possible that the First Dutch Reformed Society, of Hackensack, might have been not only once but twice, or thrice, or many times dismembered during the more than two hundred years of its existence had it not been for the really beautiful church edifice which none but a vandal, or a soul very deeply aggrieved, could ever abandon after having once

been gathered to its protecting fold. Hence it will be seen that the architect may be a factor in the cultivation of religious sentiment almost as potent as the preacher. He may be even more potent, indeed, in the sequel; for his creations, if pronounced good, will be immortal, and report his homilies to the latest generation.

Turn, now, from the church, after having examined the details carefully, and observed that not only every line is good, but that every stone is of exactly the proper size and adjustment, and look at the picture of the old hostelry known as the "Mansion House." Unfortunately, like a few other of the examples given, this building has not come down to us with all its original lines undisturbed. It belongs also to a later period than the church. But it



MANTEL IN HOPPER HOMESTEAD.—CUT WITH A PEN-KNIFE.



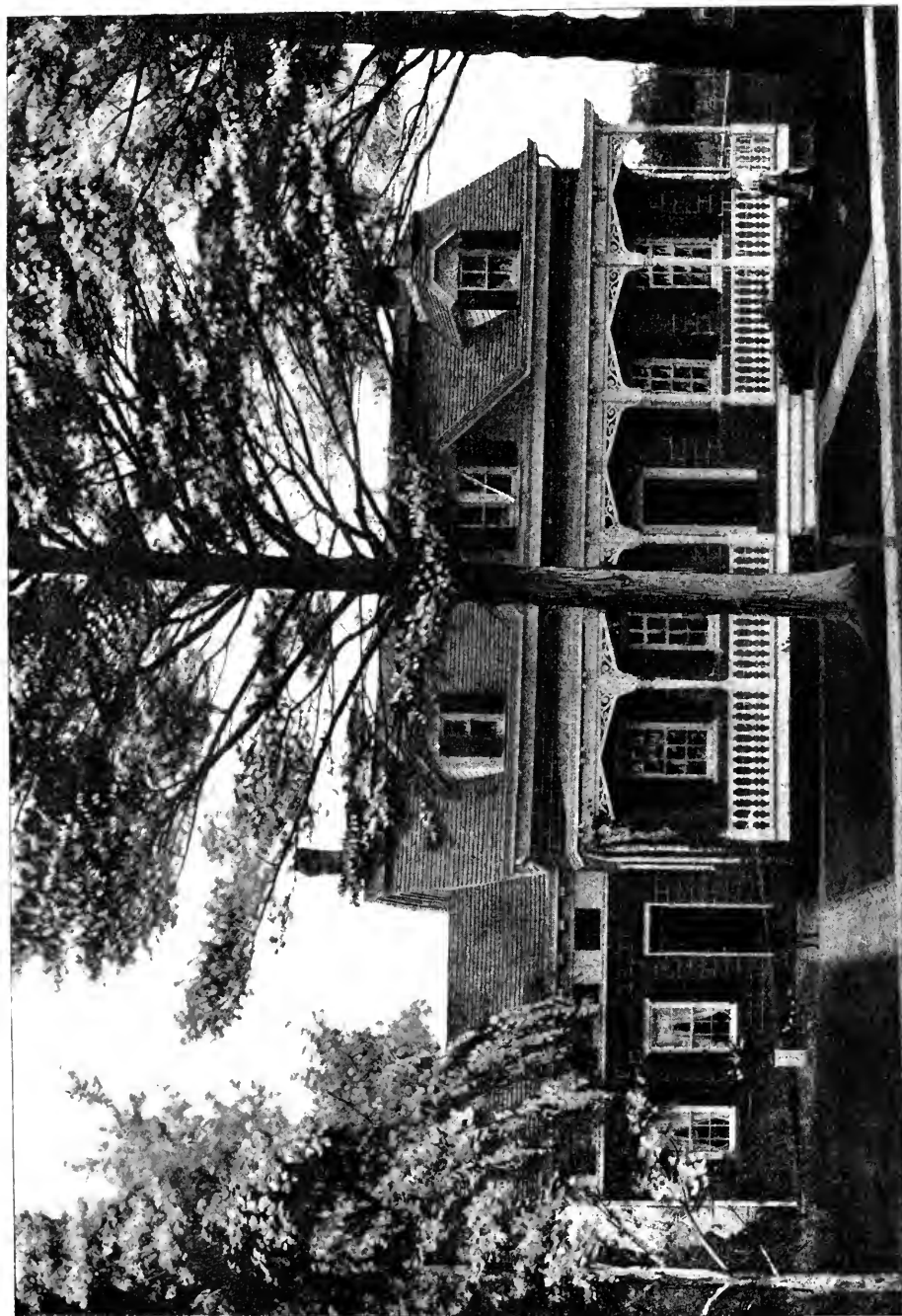
DUTCH TILES—BIBLICAL SKETCHES.

is still Colonial. It was built by Peter Zabriskie, one of the largest proprietors of Bergen County, at the beginning of the Revolutionary War, for a private dwelling. In the original plan and as first built it was only a two-story and attic building; but in after years, when it had been decided to convert it into a hotel, the attic was raised to the elevation of a full story. This accounts for the brick section of the walls between the upper veranda and the roof. But the roof itself, with all its decorative features, and the lower stories of the building, are unchanged. To say all, too, on account of its solidity in construction, the old house looks unchangeable. The walls are sometimes nearly three feet in thickness, and the walk through some of the doorways is like a walk through the hallways of more modern dwellings. But, notwithstanding this somewhat excessive regard for stability in construction, and the tasteless blunder of the builder who planned the alterations and used brick instead of the brownstone of the lower stories in carrying up the walls, the structure

still remains in its exterior an admirable example of Colonial architecture.

But if we wish to estimate the building at its true value we must examine the interior. The ceilings are low, of course. The Dutch were a too sensible people to climb high stairways for the gratification of a merely ostentatious love of displaying a large, empty space overhead. Yet they knew how to build stairs, and to build them in a manner worthy of more general imitation. In this building they are so broken by landings and turns, and so easy of ascent that a person reaches the top without the slightest sense of exertion. To a person accustomed to the long stairways of the period the facility of these stairs is even suggestive of the ludicrous. But the laugh is on the side of men who knew how to plan thoroughly artistic work without any affectation. Look at the wide hallway of this old hostelry and tell us of one thing in which it is found to be artistically deficient. There is nothing that true taste will seek to criticise.

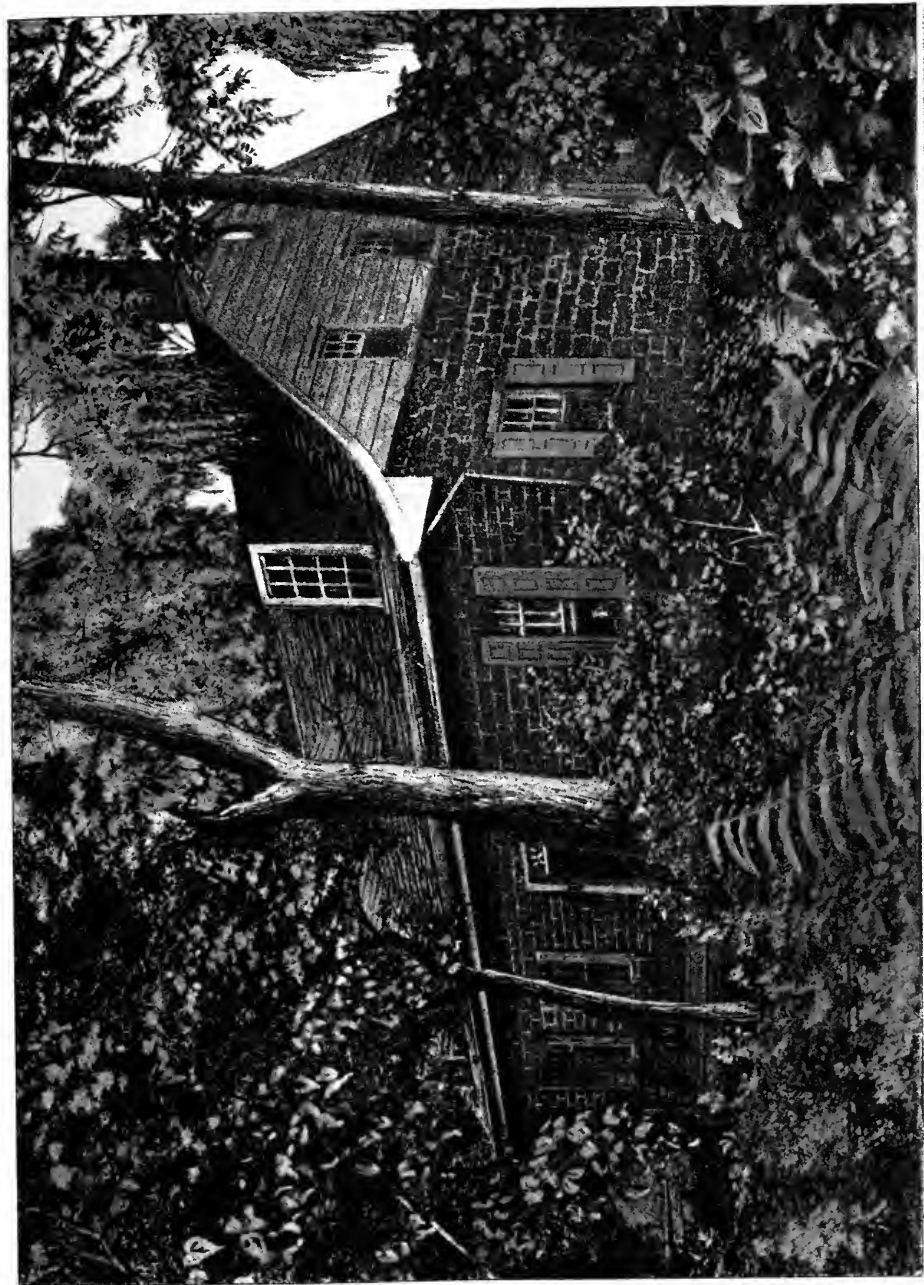
As we leave the hall and enter the



THE VAN COTT HOMESTEAD.

ALFRED WOOD, JR.

THE VAN COTT HOMESTEAD.



THE BRINCKHOFF HOMESTEAD

THE BRINCKHOFF HOMESTEAD.

Built 1704.

large rooms to the right and left of the entrance we find ourselves still more delighted with the work. The doors and deep window casings are elaborately paneled, and here are tiled chimney-pieces which seem to have been wrought out with all the care in details which the Dutch painters bestowed on their paintings. Each piece of tiling, delicately tinted, is traced with a design of some scriptural scene, comprehend-

But come up stairs and examine one of the sleeping rooms. Here, again, we find ourselves in communication with a genius at once practical and refined. These rooms are decorated with all the care and taste that made such a favorable impression in the rooms below. But utility was also considered. Our guide has but to open a few apertures in the wainscoting to show that we have really entered a storehouse of



PANELING IN THE MANSION HOUSE.—WRITING TABLE 160 YEARS OLD.

ing sacred history from the fall of man to the exit of Jonah, or perhaps to a later period. There is not an objectionable architectural feature to be seen, and, as to the low ceilings, one has but to study the proportions, or what a painter might call the keeping, for a few moments to find himself ready to declare that a nine or ten foot wall is high enough for any room of less dimensions than the interior of a church or public hall. The idea of anything higher than nine feet in a private dwelling seems like an inspiration drawn from vacuity.

domestic supplies. But externally there is nothing to indicate that the architect thought himself anything but an artist and decorator. Decoration seems to have been the chief object everywhere, and everything else is subsidiary. As the observer looks at the work he is forced to reflect that the Dutch came from a small country where the ability to economize space must have been an hereditary gift. Everywhere may be seen manifestations of good taste and judgment. There is plenty of admirable work about this building in all its parts both within and without. One

cannot help but regret the disfigurement of the exterior by a builder who could hardly claim to have been an architect, or even a person of cultivated taste, capable of appreciating good architecture when he saw it.

Still another picture of the catalogue must be commended to the special attention of the reader, not only because it offers a peculiarly graceful example of an architectural feature which no true architect can fail of approving, but because of its historical interest. It is entitled "Washington's Headquarters," and in the extension facing to the east, also photographed, may be seen the window from which the Commander-in-Chief watched the British Army on its destructive march along the valley of the Hackensack, following the opposite side of the river. The feet of Washington seem to have been omnipresent in Eastern New York and New Jersey, and wherever the antiquarian fails to discover his tracks he can imagine them, and conjecture that they have been worn away from traditions more than a hundred years old. But the presence of Washington in Bergen County is historically authenticated; and there is no more doubt that the building represented was his headquarters than that the building at Newburg, which has been monumentally embellished, was similarly distinguished. History, then, has contributed to the immortality of this old house at Hackensack, and forbidden that it should be passed without observation. Washington made a monument of every house in which he is known to have found shelter. The chief purpose of the introduction of the picture here, however, is architectural rather than reminiscent or historical. It offers an admirable example of a type of roof which was doubtless conceived at a time when the fine arts had received their highest development in Holland, but which gradually fell into disuse, even during Colonial times, as the English settlers with their cruder taste succeeded in forcing their straight and angular conceptions into the art of building. Straight and unbroken

lines were sufficiently artistic for the colonists of the last half of the eighteenth century, but such lines were never brought from Holland. Observe the graceful sweep of the roof as the line descends and curves upward into the projecting eaves or hanging veranda, characteristic of the earlier Dutch architecture. It is in the true spirit of thoroughly artistic design. Yet such has been the decline of truly artistic feeling in the architectural art, or at least among the great mass of architectural designers, that any architect of to-day who felt a disposition to adapt the line would fear that he would be thought "old-fashioned" or affected.

But now for the more forcible application of all this architectural and historical gossip. Hackensack, as it has been sufficiently said already, is a beautiful suburb. It lies in a gently undulating country where every prospect extends over some green valley or up the side of a not too precipitous hill, until the eye is lost along a waving line of emerald and blue that vanishes or blends in the distance. But to all right-minded persons there is unquestionably a greater charm in the old Hackensack than in the new. It cannot be denied that the new Hackensack has been in too many instances forgetful of its founders, and that it has failed to perceive that the true line of architectural evolution lies rather in the work of perfecting old forms of recognized excellence than in the invention of new forms. However powerful the intellect, no architect can evolve an entirely new order of architecture exclusively out of his own head. Yet to some such task too many of our architects seem to have devoted themselves when we study their plans and attempt to classify them in accordance with any recognized standard of taste.

The new Hackensack should be only a fully developed tree growing from the roots of the old Hackensack, and serving to perfect and perpetuate the species. The people of the town should not permit the soil to be incumbered all over with plants not only of a foreign but of a fungus growth, and

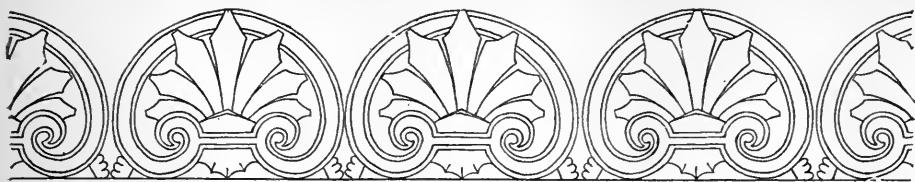
destined to be hardly more enduring than any other exhalations of a night that were born of a conjunction between miasma and an unhealthy soil. It is not right. The early settlers of New Jersey left a whole granary full of the most perfectly developed seeds that are to be found on any arborial preserves.

There is more of originality and taste in the colonial architecture of New Jersey than we can find in corresponding examples in any other State of the Union. The first settlers of the State, it must be remembered, came from a country, which, at the period of settlement, represented about the leading civilization of Europe. Holland, during the seventeenth century, was not only the leading industrial and mercantile nation but it had become distinguished, if not pre-eminently distinguished in arms, and it was the country of Rembrant, Vandyke, and the entire school of illustrious painters who led the fine art of the strictly renascent period into its more modern development. The States-General were a power in Europe both materially and morally; and if the sterling qualities of the Dutch have been but vaguely comprehended in this country the imperfect conception of their traits has probably been due to the playful but somewhat juvenile historical effort of Washington Irving, in his *History of*

New York. It is a pity that the best known work of our really accomplished writer should have been his worst work. But this was the misfortune of Irving; and the first settlers on the territory which afterwards fell under the jurisdiction of the Duke of York could point to a very honorable ancestry, and very illustrious contemporaries among their own people. They were surpassed by neither the roundheads of Massachusetts nor the cavaliers of Virginia; and it should not be thought strange if among their architectural survivals we should be forced to look for not only some of the best examples of solid building in the country but the most artistic examples. This is precisely what we find, although more modern taste, not always intelligently inspired and often perverted by the thirst for the merely new and eccentric, has been growing further and further away from their suggestions. But if the architectural vagaries of the period of Queen Anne, a lady who reigned over a people not quite so civilized as the Englishmen of to-day, can lead us back in our search for antiquities to the artistic principles of the people who furnished to British royalty of the period its portrait painters, and to British artists their tutors the fashion will not have been introduced in this country in vain.

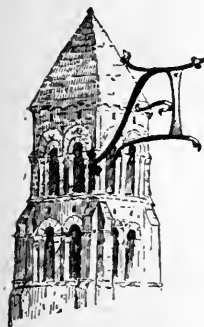
Wm. Nelson Black.





THE LOTIFORM ORIGIN OF THE GREEK ANTHEMION.*

I.



T' the close of my last Paper I had briefly indicated, by text and illustration, a suggestive correspondence between certain floral forms on pottery and others in stone carving which to the mind of a Darwinian or an evolutionist, or to the eye of an anthropologist, would not leave much doubt as to the lotiform origin of the Ionic capital. But both the pottery and the stone carvings used for the argument belonged to Cypriote art, and the few additional illustrations for the central spike so far adduced from other sources might be considered insufficient corroborative evidence.

At least two considerations would consequently forbid the student from stopping at the point which I had reached in August, 1887, as outlined in my last Paper. One is, unfortunately, that Cyprus does not yet occupy that position of supreme importance for the problems of Greek (and even of Oriental) archaeology which that island is soon destined to assume. An argument based on Cypriote art must, at present, seek corroboration outside that centre,

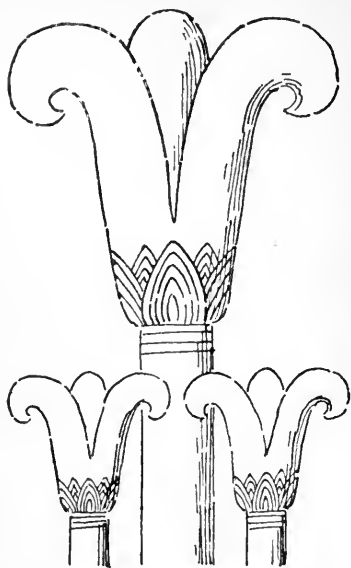
before it could hope for immediate or wide acceptance, and largely for the reason that critics and students are not sufficiently familiar with Cypriote art to cause them to realize off-hand the far-reaching significance of the arguments drawn from it.

Again, the objection would obviously rise—"If the lotus motives of Cyprus are derived from Egypt, which appears to be your axiom, what are you going to do about the present attitude of science, which concedes the Ionic capital to Assyria; provided the Ionic capital also be a lotus? Do you claim that the Ionic of Assyria came from Cyprus? This exactly reverses the present assumptions of science, for we have not



Granite pillars at Karnak. On one of them the Ionic lotus in relief; about 1600 B. C.

* Being the fourth Paper of a series on the evolution of classic ornament from the Egyptian lotus. See October Number: "The Lotiform Origin of the Ionic Capital."



The lotus trefoils of Karnak. Stone relief. Detail of the photograph preceding.

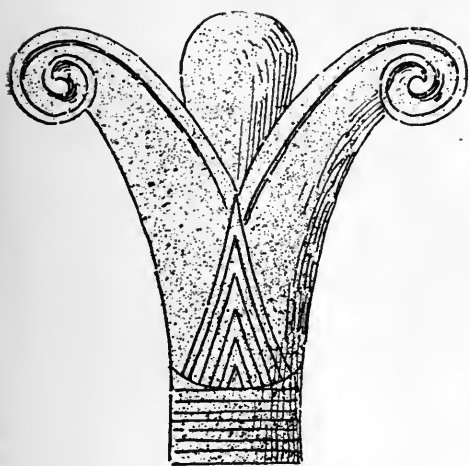
yet learned that this island gave laws and art to Mesopotamia. If on the other hand the Ionic capital came from Egypt to both Assyria and Cyprus, proofs based on Cypriote art are evidently insufficient; you must face the music and bring us proofs from Egypt." This is what I am about to do.

My demonstration through the central sepal spike* was first published in the "American Journal of Archæology," October, 1887. I found after the article was in type, and before it was cast, that I had been anticipated on this particular head of the central spike by M. Marcel Dieulafoy, the celebrated explorer of Persia, and was able to make acknowledgment in the same article before publication. M. Dieulafoy was not, however, aware of the phenomenon of the curling sepal in the natural plant, nor was he acquainted with the lotuses on Cypriote pottery. His own original suggestion was derived from a granite pillar at Karnak, on which is carved in relief a column having a trefoil lotus capital with incipient Ionic volutes. This is the only case of a surviving Egyptian example

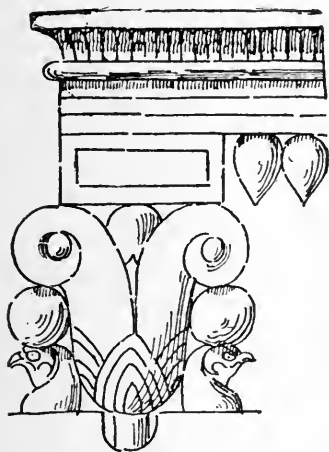
in actual architecture of an Egyptian Ionic form, and hence, on account of the apparent or supposed deficiency of more examples of the Egyptian Ionic, we are now called upon to show that the existence of Egyptian Ionic capitals is notwithstanding easily demonstrated, to explain how they have been overlooked, and to explain the disappearance of the actual originals. From this following explanation it will also appear that we are able, if required, to dispense with any appeal to designs on Cypriote pottery, which being of later date than early Egyptian art, might be considered insufficient evidence on the question of an Egyptian form. (I may, however, add on this point that *all* appearances in ancient Oriental art possess a much higher antiquity than that claimed for any existing monument; that all our existing monuments represent traditional survivals of earlier forms, and that among these survivals those nearest to nature represent types originally nearest to the highest antiquity.)

The example at Karnak is a *relief*. There is then *not even one* surviving example of an Egyptian Ionic capital in actual construction. The reason is that in Egyptian use the form was confined to capitals of wood, and these have all disappeared. Most of the surviving stone capitals of Egyptian architecture are conceded to represent the sacred water-lily, but their forms have a simple solidity and massiveness corresponding to Egyptian taste in stone construction. That the Egyptians suited their style to their material and practised a more graceful style in other materials than stone is just beginning to be appreciated. The proof that such capitals of wood once existed lies in the tomb paintings, and the tomb paintings in question were first published by Prisse d'Avennes, in 1879. Prisse d'Avennes was an artist and not an archæologist. His text was written by an author who was so little versed in his subject that he has published a relief of the New York Museum found in Cyprus as a work of Egyptian art from Karnak. This will explain to the layman how proofs of various facts are found in the plates of Prisse d'Avennes,

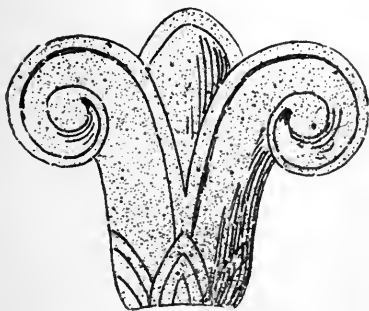
* October Number, 1893, of THE ARCHITECTURAL RECORD.



Egyptian lotus trefoil capital. From tomb picture of timber construction.



Egyptian lotus trefoil capital. From tomb picture of timber construction.

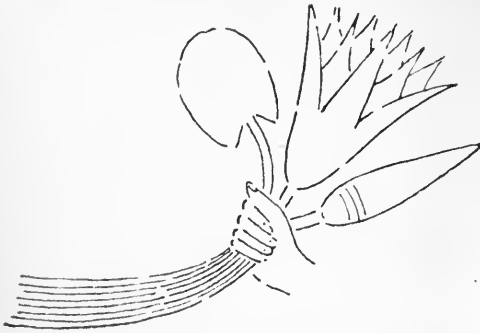


Egyptian lotus trefoil capital. From tomb picture of timber construction.

which the artist did not himself perceive or draw attention to. The value of their evidence in illustrating the predecessors of the Greek Ionic capitals has, moreover, been so far universally overlooked, even by authors like Perrot and Chipiez, who have republished some of them, and for the reason that they have not been related to the Proto-Ionic Cypriote capitals and other connecting links. Aside from names already mentioned, the German architect, Hans Auer, seems to be the only one who has appreciated their value as forerunners of the Greek Ionic, but Auer did not perceive them to be lotuses.

If we compare these capitals of wood, as known from tomb paintings, and the stone relief trefoils of Karnak, with the surface representations of the blue and white lotus in Egyptian art, we shall realize the importance attaching to the character of the sepals in the *Nymphæas*.* It is here that the significance of the "three-spiked" appearance of Egyptian lotus designs is seen, and of the trefoil form, as derived from them. As long as the "Rose lotus" was supposed to be the typical Egyptian ornament, the origin and consequently the importance of this trefoil form could not be appreciated, because the calyx leaves (sepals) of the "Rose lotus" offer no basis for a conventional evolution of a trefoil form. Thus we find a reason for the backwardness of archæology in the matter of the lotus, as connected with its mistaken prejudice that *Nelumbium Speciosum* furnishes the typical ornament of Egypt.* It will appear from my cuts of the Egyptian lotus in surface designs (next page) that successive conventional steps eliminated the petals (in some cases) until the skeleton form of the three sepals alone survived. This is the origin of the lotus trefoil which is so common in Egyptian art, in the Greek art derived from it, in the Byzantine art derived from Greek, and in the Arab designs, derived from Byzantine. It is also the form from which the conventional "*fleur de lys*" is derived. This trefoil is the residuum of the sepals

* October Number, 1893.



Type of the Egyptian Nymphaeas from a tomb picture. Showing a three-spiked appearance of the sepals as origin of the trefoil.

as pictured, in side view, by three prongs or spikes, which survive as a skeleton pattern after the petals have been conventionally eliminated. This process of conventional elimination is to be understood as the result of the effort of the artist to simplify and shorten his work and of his *dependence on an earlier copy* as distinct from a new original observation of the form in nature. His independence of nature results originally from the talismanic and magical value of the copy, subsequently from the force of habit and tradition.

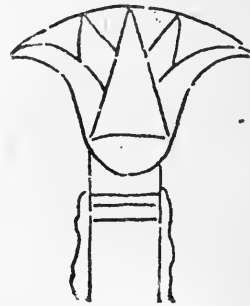
The question may be raised—"How do such conventional evolutions relate in the matter of period to more realistic forms, and are they not necessarily later?" To this I answer that we do not assert that any difference of period, as regards the *illustrations* of an evolution, is essential to the argument. The monuments used in illustration are not the original factors in the evolution; they are only traditional survivals of its various stages and of its remote and



Detail from a tomb picture, showing a conventional elimination of the petals contrasted with realistic rendering of the same. Compare the flowers right and left.

various results. It is not essential to the argument of the Darwinian theory that man should be the only form of life now found on earth.

The combination capital from Menephthah's tomb (page 269) is a valuable instance of the way in which Egyptian art constantly combines its

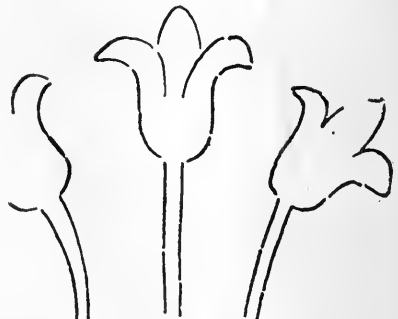


Detail from a spoon handle. Showing conventional representation of two petals and survival of the sepal spikes.

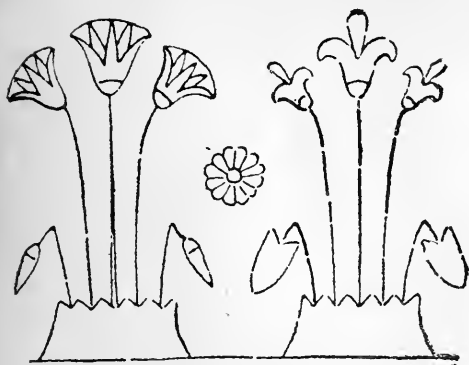
highly conventional forms which can only have been reached gradually, with more closely realistic traditional continuations of the older realistic designs. It consequently shows, as do my other attendant illustrations of these pages, how different forms of the



Detail from a tomb picture. Showing elimination of all the petals and survival of three sepals as origin of the trefoil.



Detail from a tomb picture. Showing the lotus trefoil as conventional residuum of the sepal spikes.



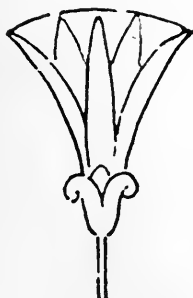
Associated lotus variants; one phase showing trefoils supporting inverted buds; compare the design opposite and page 282.

lotus may subsist side by side in the art of one given period or in adjacent patterns; a point which might not be immediately obvious to one unfamiliar



Trefoil type from a tomb pattern; showing a decorative exaggeration of the central sepal with a feathered or palmette attachment explained by crossing with the palmette type at page 286.

with the actual monuments and their relative dates. Such a person is apt to argue from the dissimilarity of two floral forms, when placed side by side,

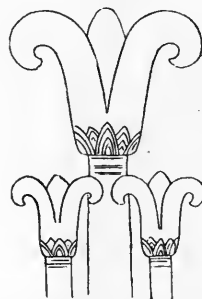


Type showing a conventional combination in one flower of trefoil below and detailed lotus above.



Voluted lotus trefoil with central members consisting of an inverted bud. Detail of a pattern on page 282.

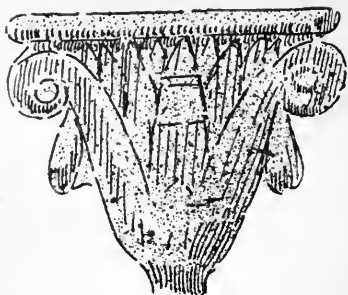
that they cannot represent the same plant because they are not like one another. This argument has been urged against me by several well-meaning critics—gentlemen who appear to think they have said something when they have only been talking. The objections from dissimilarity to nature, as urged by Professor Paine in the "Independent," show a really infantile ignorance of the history of Egyptian design. In periods of Egyptian art known to us there is not, either in realistic or conventional lotuses, any relation to actual observation of nature. There are only traditional survivals of realistic designs side by side with survivals of others which have become so remotely conventional as to lose all semblance of nature. It follows that we find side by side, in one period or



Stone relief trefoil of Karnak; repeated from page 264 to compare with the following.



Lotus trefoil with developed Ionic volutes. Blue enamel amulet in the Louvre. (Dieulafoy.)



Blue enamel amulet. Louvre. For comparison with the trefoils and to show that the volutes develop from the sepals. (Dieulafoy.)



Cypriote pottery lotus.
N. Y. vase.



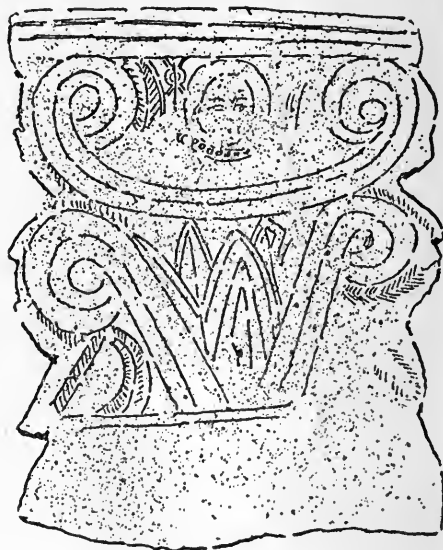
Flower from nature, with
curling sepals.

illustrate patterns or amulets. Both are valid evidences for changes which affected both.

Thus it becomes plain that the trefoil capitals of the tomb paintings are lotuses and consequently that the volutes of the trefoils are volutes of the *sepals*—a point made especially clear by an amulet in the Louvre and by a tombstone from Cyprus, herewith illustrated. In these phases of the Egyptian Ionic volute it is evident that the natural appearance of the curling sepals,* which curl in nature from the base of the flower, has been evaded, because inconsistent with decorative and architectural conditions. This evasion consists in placing the curl of the sepal at the top of the flower. In architectural or other solid forms, break-

age would otherwise have resulted. But it is difficult not to believe that the curling sepal of nature was the original suggestion of the most primitive Egyptian lotus volutes now known and here illustrated. It must be remembered that all monuments of the actual historic evolution of Egyptian art are lacking at present. These all antedate the IVth Dynasty, with which our present knowledge of Egyptian art begins. In this deficiency of earlier Egyptian monuments the great importance of the Cypriote pottery lotuses is their evidence that ancient decorators in close relations with Egypt actually had noticed and imitated in a fairly realistic way the curling sepals. We are, moreover, able to show in Greek art a decorative evolution of fully developed, apparently geometric, spirals from the Cypriote pottery form (pages 273-277). This makes it impossible to deny that the Egyptians accomplished a similar evolution.

The argument then stands thus, as far as the curling sepal is concerned: We can prove that ancient decorators related to Egypt noticed the curling sepal of nature. We can prove that some geometric spirals actually did



Cypriote pillar capital. New York Museum. Head of Isis-Hathor (the Moon) supported by lotus with curling sepals.

* Illustrations from nature in October Number.

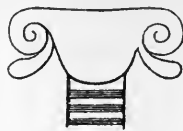


Combination capital from a picture in tomb of Menephtah (14th Cent. B. C.) The lower member is a bud, over which appears the normal flower with two buds. This supports an Ionic trefoil, above which is a lotus having volutes joined by a straight line.

enon is another thing. It is with this matter-of-fact that I am now dealing.

What I positively assert is that the lotus in Egypt did have, among other forms, an Ionic or voluted form, and that this Ionic form did positively produce the Greek Ionic capital. Once more I observe that it is difficult for the layman to appreciate the destruction of the monuments which has obscured the transitions and connecting links with Greece; but it is not to be overlooked that a voluted lotus capital with a straight line connecting the volutes can be dated in Egypt, by a tomb painting, to the fourteenth century B. C. The combination capital from the tomb

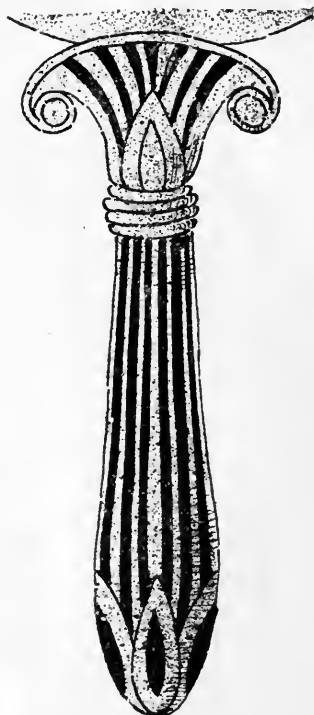
develop from this curling sepal (pages 273-277). We can show in Egyptian art a conventional curl of the conventional sepal having as close a relation to the curling sepal of nature as the given material and the consequent conditions of breakage will allow. If there should be, after these points are duly considered, any one having a right to an opinion on the subject who prefers to believe that the volutes of the Egyptian trefoils developed from a gradual decorative bending over and ultimate decorative curl and not from an original suggestion of nature, it is all one to me. The explanation of a phenomenon is one thing; the matter-of-fact existence of the phenomenon is another thing.



Egyptian originals of the Ionic capital; from tomb paintings. Published by Wilkinson in 1857 as "water-plants."

of Menephtah, the Pharaoh of the Exodus and son of Ramses II., shows this straight upper line. A mirror handle in Florence, which is an obvious copy of an architectural original, shows an Egyptian lotus capital whose upper line resembles that of the Ionic capitals of the temple of Bassæ.

Since many evidences of the transition from the Egyptian voluted lotus to the Greek voluted capital have disappeared, with the original Egyptian Ionic capitals themselves, it is the more important to insist on the historic contact which explains the possibility of the transition. It is necessary to say that neither historians



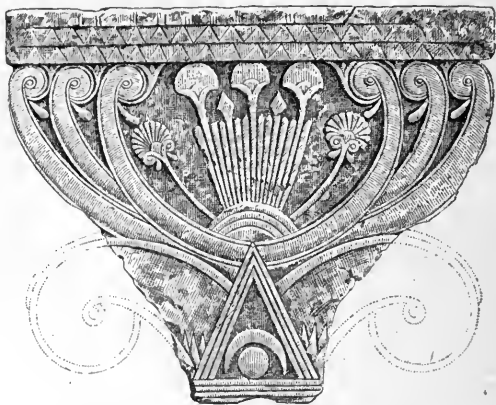
Egyptian mirror handle, copied from an architectural column and showing the Ionic volutes. Florence.



Cypriote Ionic capital (Louvre); showing a rudiment of the central sepal spike (see cut below) and the signs of sun and moon worship.



Cypriote lotus trefoil from a sarcophagus pattern. New York. Compare the above capital.



Cypriote pillar capital; showing the conventional curling sepals and central sepal spike. Sun and crescent moon on the capital. Aphrodite Temenos, Idalium. (Obnefalsch-Richter.)

or archæologists in general have properly appreciated the significance for Greek history of the presence in Egypt of large numbers of Greek mercenaries, who were the *corps d'élite* of the Egyptian army in the eighth, seventh and sixth centuries B. C. Greek traders overran the country in the same centuries. It was not till Mr. Petrie's recent excavation of the ruins of Naukratis, the famous Greek colony of the Nile Delta, that the intimate relations of the Greeks with Egypt have begun to appear in their true light. Cyprus was a more important, because an older, centre for the diffusion of Egyptian influences among the Greeks. This Island, ultimately tenanted mainly by a population of Greek race, was notwithstanding saturated with Oriental and Egyptian influences, partly through direct commerce with Egypt, partly through Syrian and Phenician transmission.

It must be admitted that Cyprus furnishes at present the largest number of those archaic and transitional Ionic forms which are nearest to the later forms of Greek art, and it seems to me certain that the evolution of the Greek Ionic capital actually took place on this island; for although the counterparts and remote ancestors of the Greek Ionic are abundantly attested for Egypt, its exact original is scarcely to be sought there. It is especially interesting to notice on several of the Cypriote capitals illustrated in these Papers the representation of the sun and moon symbols (disk and cres-

cent) which is so common on Phenician votive tablets to their deities and with which the normal sacred lotus is also so constantly associated in Phenician art. In the stage of evolution represented by these Cypriote monuments the solar (and lunar) significance of the Ionic capital, as resulting from its identity with the lotus, is clearly indicated. This leads to the remark that none of these capitals appear to have been portions of a building, since only one or two are found in a given place. On the contrary, they are announced by Dr. Max Obnefalsch-Richter (on grounds quite independent of the lotus derivation of the capital) to have been sacred sun-pillars flanking the approach to Cypriote sanctuaries and disposed in a fashion corresponding to that of the Egyptian obelisks, which were also monuments of solar worship. (That they were in some cases tombstones appears also probable, and here again the funereal and resurrection significance of the lotus is to be considered.)* The observations of the same scholar show that the Apollo of Cyprus was certainly identified with, and probably derived from, the Syrian Sun-god Resef, and that the sanctuaries of Apollo in Cyprus were sanctuaries of Resef-Apollo—that is, of a Sun-god worshipped indifferently under both names or either one. The identification of

* See October Number, 1892.

the Greek Aphrodite of Cyprus with the Phenician Astarte (Chaldean Istar and Egyptian Isis-Hathor) has been long familiar with students, and the derivation of the Greek Aphrodite, by way especially of Cyprus, from this Oriental Moon-goddess, is sufficiently certain. Let us not forget, then, that there is evidence for a fusion and connection of Greek and Oriental cults in Cyprus which assists us to understand an evolution of the Ionic capital as there accomplished. Whether this evolution was consciously accomplished is not a very important question. My own belief would be at present to the contrary. The sacred symbol or talisman becomes a more important object than the natural form from which it is derived or so important that it is quite independent of it. Its repetition and manufacture are traditional—a matter of consecrated habit. That the Greeks of the mother-country in the fifth century B. C. had utterly forgotten the origin of their Ionic capital is clear enough from the ignorance of Vitruvius, who still had access to original Greek documents and authorities. There is no evidence that any of the Cypriote capitals illustrated are older than the sixth or seventh century B. C., and it would be strange (possibly) that a Cypriote knowledge of the true origin of the form had not floated over to the mother-country, if that knowledge had then existed. It has been reserved for the nineteenth century to know more about the Ionic capital than did the Greeks themselves, who created its most renowned examples.

It is still another and distinct question when the Ionic capital lost the sacred character which the sun and moon symbols on Cypriote capitals (as well as their use as sanctuary pillars) indicate that they still possessed in Cyprus. This question is hardly worth answering, because it proceeds from an attitude of mind (*viz.*, our own modern attitude) which separates the secular and profane from the sacred and divine. But this distinction, being foreign to nature itself, is foreign to all natural religions. Still, this question, though not admitting a definite answer, is worth discussing, because it concerns

the entire question of lotus symbolism.

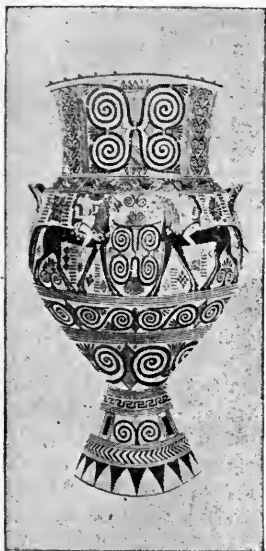
The magic power of the lotus as counterpart, offspring and representative of the watery element from which the heavenly bodies were derived by Egyptian science, must have been most strongly felt where the solar and lunar origin and character of the derivative deities were most distinctly recognized. In other words, the question of lotus symbolism for the Greeks concerns the local points of Greek and Oriental contact, as distinct from points remote to this contact; and it concerns the earlier periods of general Greek dependence on Oriental influence as distinct from later periods of general independence. And what holds of the original talisman must hold of its derivative conventional counterparts. On the other hand, as regards the continued use of a symbol when belief in its talismanic power has faded or disappeared, it must be remembered that the force of traditional habit lasts long after the force which made that habit traditional has passed away. If our own art still attests this fact, why not concede it for the Greeks themselves? As a matter of fact the force of traditional habit is everywhere continuous indefinitely and without any limit whatever, until a new force comes in question to displace it. Mr. Balfour has reminded us, in his "Evolution of Decorative Art," that we wear two buttons above our coat-tails in cutaway coats, because they were once necessary to hold back the buttoned flaps of long-skirt coats in the eighteenth century. The modern potters of Cyprus still place on their common earthenware vases two little spots of clay, without knowing why, and because their fathers did it before them. These spots of clay represent the breasts of Artarte, whose head once consecrated the vase and at the same time adorned it. The time is coming when our own Ionic capitals and anthemions will be known as representing an exactly parallel fact—that is to say, the perpetuation of forms entirely destitute of meaning to the people who use them, and yet owing their existence to a meaning which once was inseparable from them.



Greek anthemions from the Erechtheum.



Ionic capital found in Cyprus (Ohnefalsch-Richter).



Melian vase in Athens (7th century B. C.). Compare the neck ornament below and body ornaments, pages 275 and 276.



Rhodian vase (6th century B. C.). The motive on the left of the upper zone is shown on the next page.

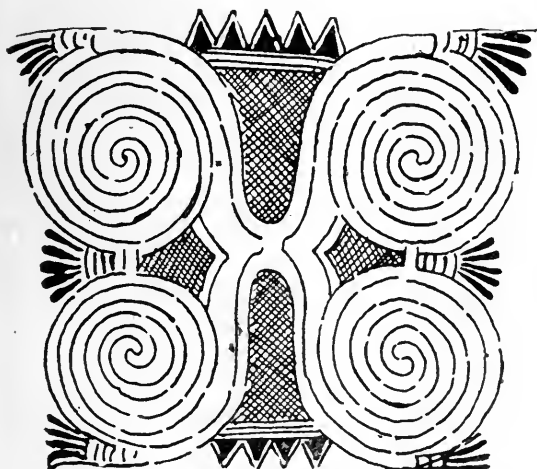
II.

I have thus far pointed out, in the matter of the Ionic capital, certain significant indications largely drawn from Cypriote examples bearing on the asserted discovery regarding its origin (October Number). I have then, in the first portion of this Paper, appealed to Egyptian examples in corroboration. But there is still left in reserve the most positive and conclu-

sive proof of all—one which involves the anthemion and rosette; returning in a circle to the Ionic form and proving it to be the counterpart and relative of the anthemion in such a way that there is no escape from the conclusions already drawn, and that new ones of far-reaching importance are at the same time added to them.

It was in the months of July and August, 1887, that, having worked out the demonstration from the central sepal spike, as found in rudimentary survivals on Cypriote capitals, I stumbled on a clue which enabled me to connect the Ionic volute with the surface spirals and spiral scrolls of Greek art in general and both with the anthemion.

A very rare but very important type of early Greek pottery is that known as Melian, from the Island of Melos, to which it appears to be native. In the publication of these Melian vases made by Professor Conze, of Berlin, I had noticed a type of ornament whose enormous spirals appeared to be a decorative development of the lotus as known to me on



Doubled Melian lotus—one flower inverted. The spirals are evolutions from those of the Rhodian motives on next page.



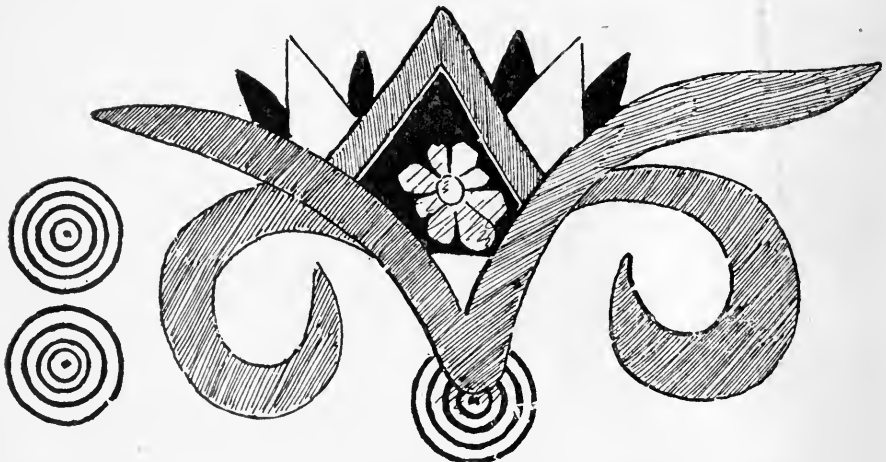
Rhodian pottery lotus, derived from the Cypriote type below. For the entire vase see page preceding.



Rhodian pottery lotus, derived from the Cypriote type below.

Cypriote pottery. The form in question is a doubled lotus, one flower erect and one inverted, of remote resemblance to nature and resulting from a series of decorative conventional departures starting from the Cypriote pottery form. According to my supposition that these spirals had developed from the Cypriote curling sepal it was necessary to find connecting links in the intermediate pottery style of Rhodes, and these I found in the magnificent publication of Salzmann. In geographical position Cyprus, Rhodes and Melos lie in the order named from East to West. The traditional pottery styles of these islands naturally show a graded sequence in which the art of Cyprus is nearest to the Oriental, that of Melos is nearest to the later Greek, and that of Rhodes is intermediate.

The evolution of the Rhodian and Melian types of lotus from the Cypriote is made obvious by the illustrations. When the Cypriote lotus is taken as a point of departure it will appear that every form of the spiral on Melian vases is a decorative modification of, or directly related to it. A substitution of a palmette crown for the pointed petals produces one variant (pages 275, 276). An inversion of the lower spirals of the doubled palmette produces the variant of page 277.



Cypriote pottery lotus with curling sepals (N. Y.), showing the starting point of the Rhodian and Melian spirals.



Rhodian pottery lotus with a palmette crown. The palmette is derived from Cypriote forms on metal shown at page 287 and there explained.

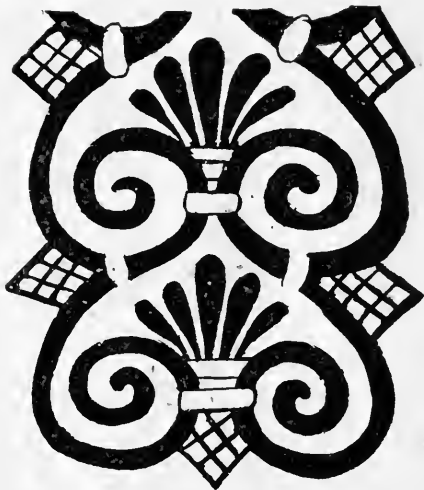
The inversion of one spiral of the primitive palmette opposite creates the spiral scroll with palmette filling. The dropping out of the palmette filling gives the pure and simple spiral scroll.

More important than any explanations or assertions of my text will be found just here the comparison of my cuts from pages 274 to 277 inclusive, from the point of view that they are all decorative variants of one motive. It is not claimed that this comparison is anything more than a suggestion. The comparison simply states a problem to be worked out, and this problem is—"Are the volutes at the base of the anthemion of later Greek art (page 272) identical in origin with the volutes of the Ionic capital (same page)?" If so, the problem requires us to explain the palmette crown of the primitive anthemions of page 275. This was, originally, in Egyptian art, a demi-rossette.

In order to prove that the suggestion obtained from Melian vases leads to a positive demonstration for all the isolated spirals, scrolls and anthemions of Greek art, I must first indicate the existence and explanation of the Egyptian lotus palmette, which is the exact original of the Greek anthemion. This again involves the problem of the rosette. As I have said in my preceding Paper it is impossible to accept the Ionic capital as a lotus without admitting these additional forms.



Primitive pottery anthemion, derived from, or related to, the Rhodian type adjacent. From the Melian vase on page 273.



Section of a motive on the neck of the Melian vase at page 273. This motive is a variant of the anthemion above, obtained by carrying the lines of the spirals around and over the palmette and then repeating.



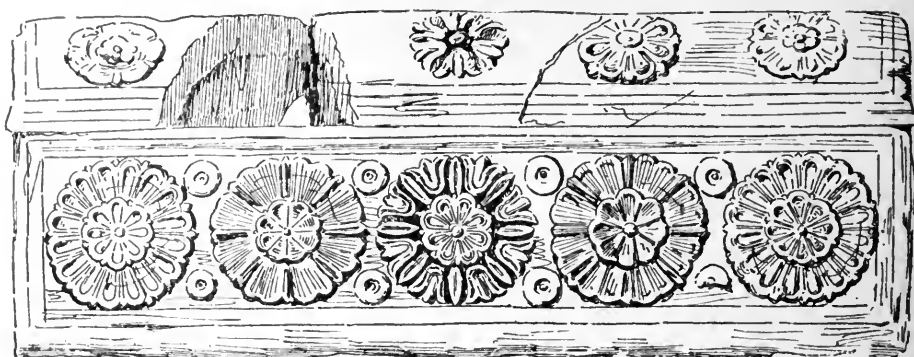
Spiral scroll from the Melian vase on page 273. Showing a variant of the anthemion above—one spiral being reversed and palmette doubled.



Doubled palmed Melian lotus, from the vase on page 273. Compare the cut in text (page 273) for the doubled Melian form with serrated design of petals. The inverted Ionic lotus here above is analogous to the types of Cypriote capitals. Compare anthemions top of the preceding page for the single form here doubled.



Palmated doubled lotus, showing an inversion of the lower spirals. Decorative variant of full-page design preceding. Ionic lotuses on the base at either side. From a Melian vase in Athens.



Syrian sarcophagus; Greek period. Louvre. The rosettes show the decorative elaborations of Alexandrine art, but the combination of lotus trefoils is distinct in the central ornaments both of the coffin and the cover.

III.

It is a prejudice of archæology that the rosette is an Assyrian ornament as regards derivation, and this prejudice is one illustration of the fact that archæology has still something to learn. This prejudice also illustrates the fact

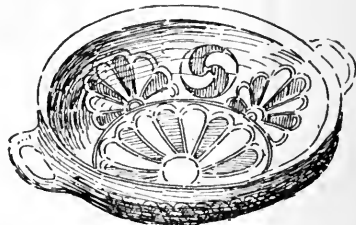


Cyprote archaic Greek vase, New York. Border of lotus trefoils and buds. Two borders of rosettes. Compare the rosette on the large Cyprote kist (page 274).

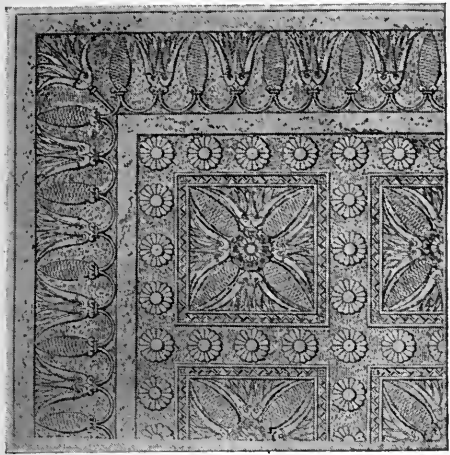
that the history of pattern ornament has been strangely neglected.

My argument on the head of the rosette, as regards its Egyptian origin, has not only been accepted by Professor Maspero,* but he has devoted one page out of the two and a-half which he gave to his notice of the "Grammar of the Lotus" to an additional argument in the same direction. The gist of *his* argument is that the prejudice in question had actually led Adrien de Longpérier, when Director of the Louvre Antiquities, to transfer rosettes *found in Egypt* to the Assyrian cases of the Louvre where they still remain and where they can be used to-day as an illustration of the Assyrian origin of the rosette! My argument on the Egyptian origin of the rosette has also found favor with Dr. E. B. Tylor (London *Academy* review), and strange to say, with M. Foucard, the critic of the *Revue Archéologique*, who has otherwise committed the absurdity of admitting my demonstration for con-

* "Revue Critique," June 6, 1892.



Rhodian Greek vase (5th or 6th century B. C.) Illustrating the origin of demi-rosettes by intersection. To compare with the demi-rosettes of the Egyptian lotus palmette (pages 285-287).



Pavement slab from Nineveh. British Museum (similar fragment in the New York Museum). Lotus flowers, buds and rosettes of Egyptian derivation. No Assyrian rosettes can be dated back of the 9th century B. C.

centric rings in Egypt and of disputing the demonstration for the Ionic volute in Greece. (In other words, M. Foucard has admitted the most remote of all my conclusions and has rejected its most elementary postulate.)

Having in my earlier Papers disposed



Rosette supported by a lotus flower. Detail from stone carving on temple columns at Esneh.

of the objection that rosettes are a form of ornament common to all primitive decoration; having shown that they have always been traditional in Europe and that it is extremely illogical for reviewers to argue from the practice of a modern kindergarten or public school to a question of anthropology and history—it remains to say that the rosette is positively not originally Assyrian and that in Egypt it

is a form of the lotus, as it is already conceded by experts to be in India.

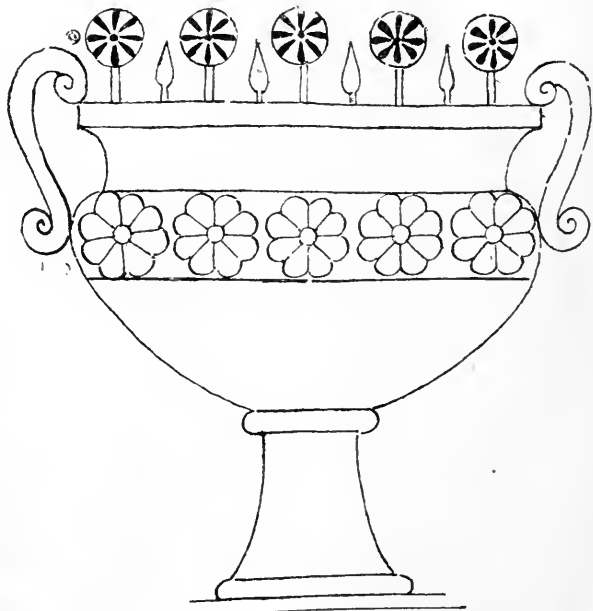
Rosettes are very common on Assyrian relief slabs used for pavements and for veneering palace walls, and they are also common on Assyrian tiles—but none of these remains are earlier than the ninth century B. C. Rosettes are unknown in Egyptian stone reliefs before the time of the Roman Empire (I only know them in Egyptian stone carving



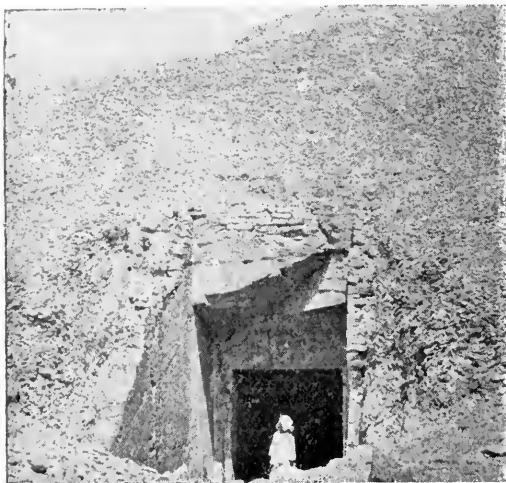
Enamel rosette amulet; Owens College, Manchester. Dating about 3000 B. C. (Petrie.)

on the columns at Esneh), hence probably the prejudice that they are an Assyrian ornament. As a surface decoration in color, rosettes can, however, be dated in Egypt to the Pyramid Dynasties* (4,000 B. C.) As an amulet form they can be dated to the Twelfth Dynasty (3,000 B. C.). As a constant fresco motive in tombs they can be dated to the Eighteenth Dynasty (1,600 B. C.). The tomb frescoes in

* Illustration in April Number—Head-band of the Lady Nefert.



Ceremonial gold Egyptian vase; from a painting in a Theban tomb. Border of rosettes on the vase, which supports ceremonial plants in metal—lotus buds and rosettes on conventional stems.



Entrance to a Theban tomb. Valley of the Kings.

which these rosettes appear were first abundantly published by Prisse d'Avennes in 1879, but the evidence of his plates has been ignored or overlooked until I took the matter in hand. In fact the first result of his publication was an essay on Egyptian ornament by a German critic, Von Sybel, attempting to prove Assyrian influences on Egypt because the plates of Prisse d'Avennes showed a hitherto unsuspected quantity of Egyptian rosettes! There is a good deal of amusement to be gotten in a quiet way from the study of pattern ornament.

My suspicion that the rosette is a lotus motive was first roused by botanical pictures of the ovary stigmas of the blue and white Egyptian water lily. The top of the seed-pod (ovary stigma) has this form according to the illustrations herewith. The English botanist and Egyptologist, Mr. Percy E. Newberry, has independently reached the same conclusion, although his proposed announcement was anticipated by mine and was consequently withheld from publication. There are also Egyptian rosettes which represent a lotus flower expanded and flattened out. Other rosettes are combinations of lotuses, or combinations of lotus buds.

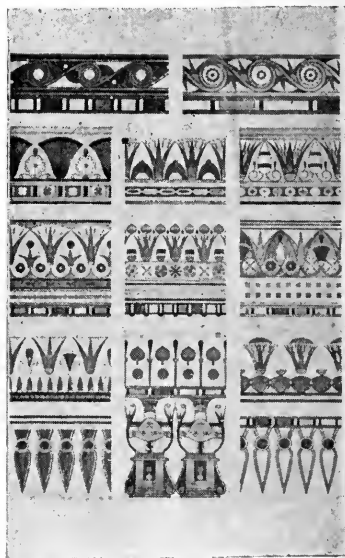
The associations in which these rosettes appear in Egyptian ornament are such as to make the lotus connec-

tion unmistakable, and there are many arguments to be mentioned subsequently which corroborate the same conclusion.

The tomb frescoes show us a multitude of symbolizing combinations where the rosette appears with the bud, flower and leaf, in such fashion that it is impossible to ignore the evidence when it has once been pointed out (pages 282-284).

Let us remember what has been already proven regarding the use of the lotus in Egypt.* Its picture is a talisman and has magic power. It is an emblem of solar worship, of generative power and of immortality. Hence its use in tomb paintings. Now, when we find in a tomb pattern the picture of a lotus or of a bud, joined to a picture of a rosette, must we not conclude that this association is significant? When we find buds supporting a rosette, or lotus flowers supporting a rosette, as on the temple columns at Esneh, is not this conclusion again obvious. We can point to buds which support inverted

* October Number, 1892.



Border patterns from Egyptian tombs. Compare the details on pages 282 and 284. Originals in color.

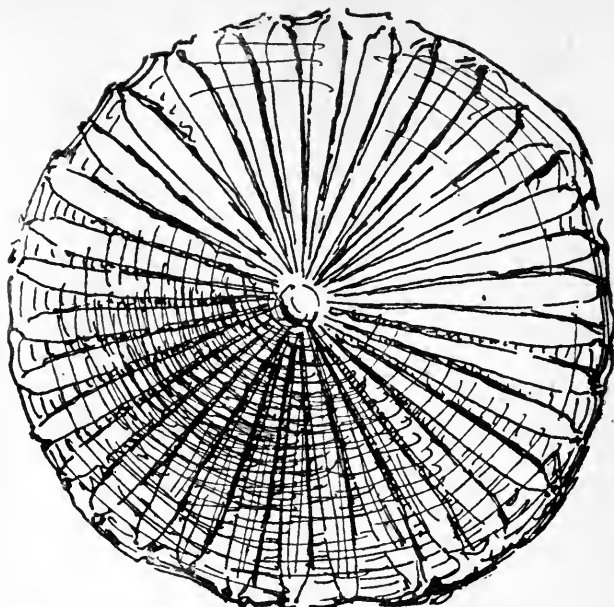


Ovary stigma of the blue lotus. From the botanical Plates of the "Napoleon Egypt." Compare page 283.

buds, and to rosettes which support buds inverted and which support buds erect. We can point to leaves supporting buds and rosettes which support leaves, and again to flowers supporting buds (inverted), and again to flowers supporting leaves.

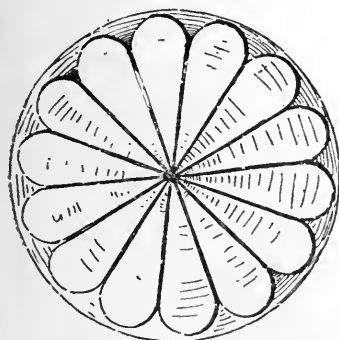
Is it possible to deny significance and conventional and symbolic floral association in some of these cases? Is it possible to admit significance and conventional floral association in some of these cases and to deny it in others?

Take once more the case where the rosette is represented on the Cypriote pottery lotus, or where the rosette appears between the flowers and the buds, and how can my conclusion be avoided (page 283). We cannot prove absolutely in any of these cases that the ovary stigma offered the original suggestion. In default of literary record of course there can be no absolute



Dried ovary stigma of the lotus, after seeding. From Nature.

proof, but we can prove that the rosette is a lotus, and when this proof is once admitted, the ovary stigma becomes one highly natural originating motive. In many cases the expanded flower, conceived as flattened, is the obvious design and it may have prompted all which are not obviously flowers or buds symmetrically combined (and these two last cases are the least frequent). Still the differentiation between the rosettes with pointed sepals and petals and those with rounded radiations at the points seems to indicate the ovary stigma as one of the original forms.



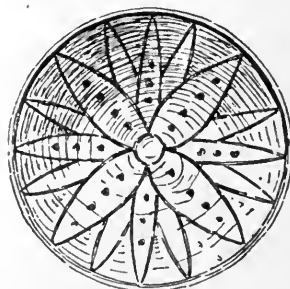
Conventional rosette (ovary stigma) in stone relief. From an Alexandrine stone sarcophagus. N. Y. Museum.



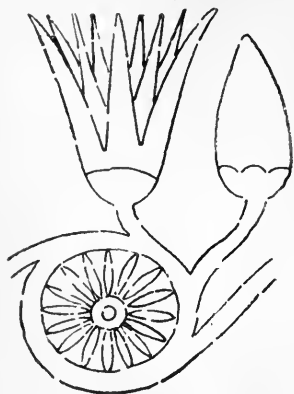
Rosette of lotus flowers from an Egyptian picture of a gold vase.



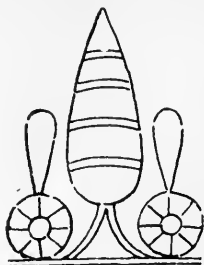
Rosette of lotus buds. Cake stamp from Naukratis. Roman period.



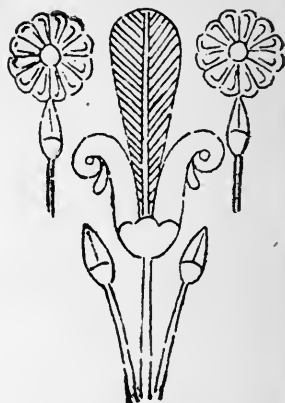
Rosette form of the lotus conceived as flattened and expanded. Blue enamel patera from Cyprus. N. Y. Museum.



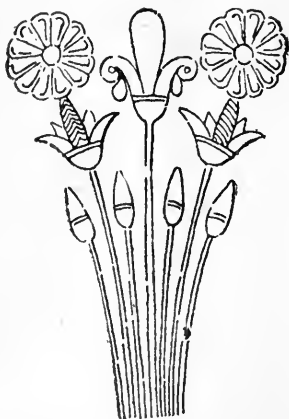
Lotus, bud, and rosette. Detail from a tomb pattern in color.



Lotus bud between two rosettes supporting buds inverted. Detail from tomb patterns in color, including lotuses. Compare page 280, where similar patterns are seen.

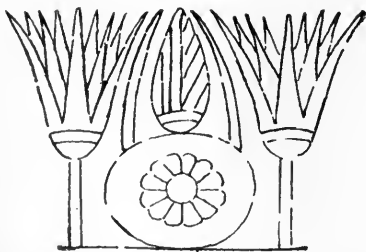


Lotus buds supporting rosettes; voluted lotus supporting an inverted bud (detailed like a feather). Compare the next design as regards the bud. Carved ornament on the temple columns at Esneh.

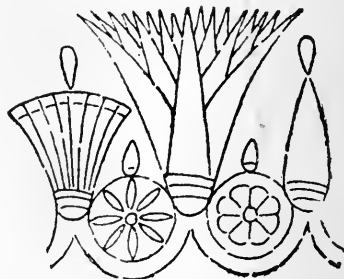


Lotus flowers supporting rosettes. Volute lotus supporting an inverted bud. Group of four buds. Carved ornament on the temple columns at Esneh.

On this page I have united some details from the tomb patterns with two from temple carvings. More of the tomb patterns are illustrated on page 284. The dilemma in which I have placed my antagonists by this collocation is not one in which I should care to be placed myself. The easiest way for them out of their difficulty is to say nothing, and I presume they will take it; without retracting anything they have said before. The following points are to be considered by students who do not profess to be experts, in deciding for themselves. Not one Egyptologist has antagonized my conclusions on the rosette. Everything which has been said or published by Egyptologists has been favorable to my conclusions about it. The only Egyptologist who is also a botanist (Mr. Percy E. Newberry) anticipated my conclusion about



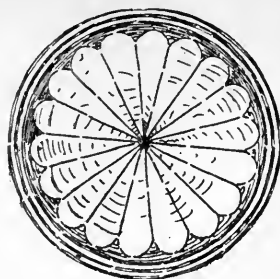
Rosette supporting a bud, between lotuses. From a tomb pattern in color.



Lotus flower supporting bud inverted. A bud supporting a bud inverted. Rosettes supporting buds. Detail from a tomb pattern in color.



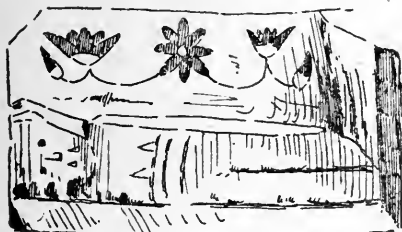
Ovary stigma of the white lotus. From the botanical Plates of the "Napoleon Egypt."



Ivory whorl from Cyprus. New York Museum. Type of the ovary stigma rosette.



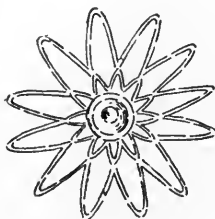
Conventional representation of the ovary stigma pictured on the flower. Cypriote pottery. Compare page 274.



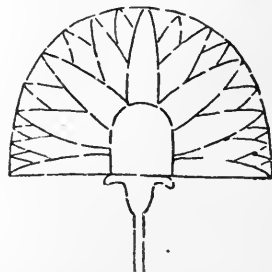
Stone carving from Nankratis. Miniature coffined figure. Rosette between lotuses; type of the expanded flower.



Rosette from an Etruscan bronze cist. Type of the expanded flower.



Detail of a bronze door from Susa. Type of the expanded flower.



Type of the flabellum or Egyptian standard. Demi-lotus expanded.

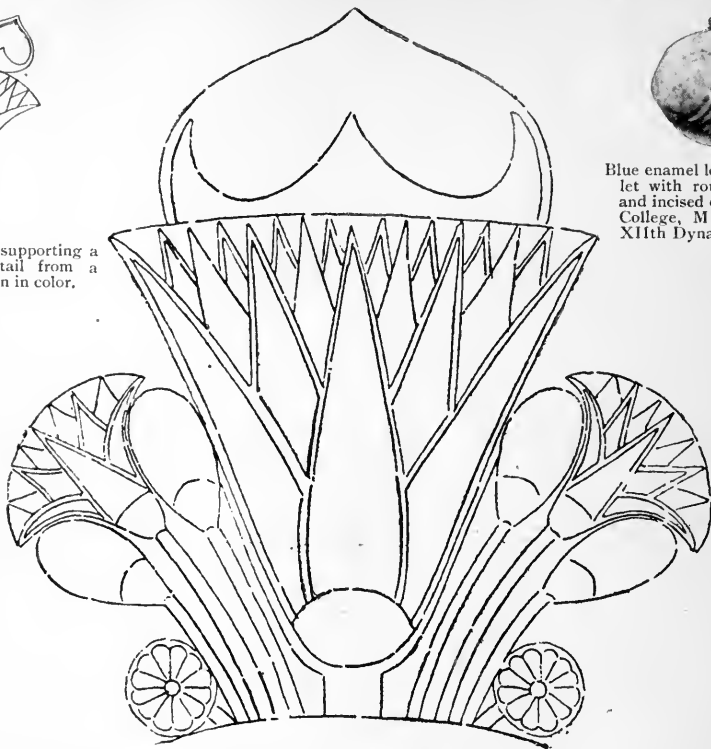
the ovary stigma. Now let us consider the deficiencies possibly inherent in a reviewer, not an Egyptologist, who has rejected my conclusions. First, such a person may have reviewed the "Lotus Grammar" without having read it carefully, or without having read it all. Second, he may be an Assyriologist, disliking to concede to Egypt what has so far been conceded to Assyria. Third, he may be a person who has been taught to design rosettes artificially in a kindergarten or public school. Fourth, he may be a person not in touch with Oriental and Egyptian habits of mind; not aware that the idea of ornament purely for the sake of ornament was unfamiliar to an Egyptian; not aware that religious and magical beliefs are the foundations of Egyptian design. I now invite attention to the large design of page 284, representing the type in which a lotus flower is conventionally combined with a lotus leaf, and to the associated patterns of lotus leaves with a cleft over a rounded base.



Lotus flower supporting a leaf. Detail from a tomb pattern in color.



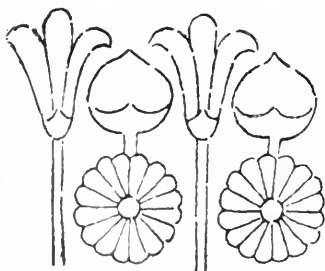
Blue enamel lotus leaf amulet with rounded bottom and incised cleft. Owens College, Manchester. XIIIth Dynasty.



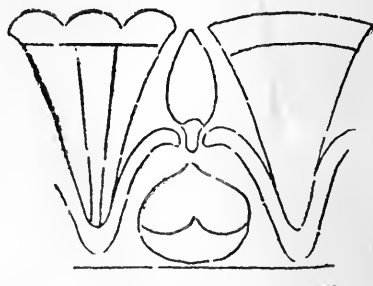
Portion of a toilet tray in wood. (Cover of the tray.) Lotus flower supporting a leaf. Lotus between buds with blunt ends. Rosettes on stalks.

The rounded bottoms of these leaves require an explanation. These patterns in the Egyptian pictures herewith reproduced are not direct copies from lotus leaves but from enamel amulets representing leaves, of which the museums offer many instances. These amulets are rounded at the bottom for convenience of manufacture and to avoid breakage (see cut above).

The cleft of the leaf is represented by an incision over the rounded bottom. It is significant for their magic quality and use that the pictures copy an amulet or magic charm. These amulets are invariably found in the tombs where they were placed for religious reasons. The fact that the rosette itself is a tomb amulet (in enamel) is also to be considered (cut, page 279).



Rosettes supporting lotus leaves between lotuses. Detail from a tomb pattern in color.



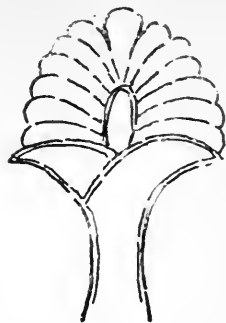
Lotus leaf supporting a bud between lotuses. Detail from a tomb pattern in color.



Type of the bud and rosette.
Esneh.



Type of the flower and
rosette. Esneh.



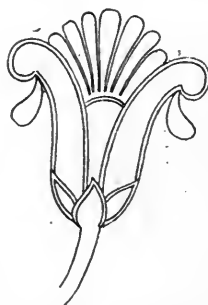
Type of the flower and demi-rosette.
From a Cypriote bronze shield.



Type of the voluted flower and
rosette. XIXth Dynasty.
Ornament on tomb picture of
a throne.



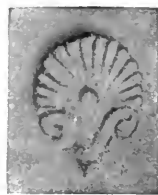
Type of the flower and demi-
rosette. Detail of a tomb
pattern.



Variant of the foregoing type.
Detail of a tomb pattern.

IV.

But there is still a form of the Egyptian lotus which obliges us to consider the rosette as a lotus motive. It is that in which a demi-rosette is combined with a lotus, generally of the Ionic or voluted form. The significance of this association is best grasped by recurring to the pattern which shows us the flower supporting a leaf, and the method which inspires the combination is obvious when we recur to the patterns in which buds or flowers support a rosette entire. The demi-rosette combined with the lotus is undoubtedly an abbreviation of the method which represents the entire rosette over the flower or over the Ionic lotus form, both cases being exactly analogous to the case of the flower supporting a bud (p. 282) or the flower supporting a leaf (p. 284).



Enamel lotus palmette amulet, Owens College, Manchester. Original type of the Greek anthemion; dated about 3000 B. C.

This Egyptian *lotus palmette* has so far quite escaped the attention of students. In spite of a frequency which is sufficiently obvious *when the evidence has been collated*, even its existence, to say nothing of its explanation, has been entirely ignored. Notwithstanding, it can be dated as a tomb amulet to the Twelfth Dynasty, 3,000 B. C. It is a frequent appearance in tomb frescoes of high antiquity. It appears in stone carvings, according to my personal observation, on the temple walls of Karnak (Nineteenth Dynasty). As an amulet in necklaces it can be dated to the Nineteenth Dynasty. In Etrusco-Phenician bronzes, as well as in silver and in gold, it is a common ornament of early Mediterranean art. But it has taken time and patience to prove all this. I was obliged to collect all the material myself, and to



Enamel lotus palmette amulet. Boston Museum.



Enamel lotus palmette amulets. Gizeh Museum. From photograph by Mariette.



Enamel lotus palmette amulet. Boston Museum.



Lotus palmettes in Egyptian gold jewelry.

search for it piecemeal. From the summer of 1887 to the summer of 1890 I could not date the Egyptian lotus palmette earlier than the time of an Etruscan tomb of the seventh or eighth

century B. C. (the Regulini-Galassi tomb), and I could not consequently definitely locate it as an Egyptian type of early date. The palmette amulets known to me in Boston were undated, and so were those of Mariette's photographs from the Boulak (now Gizeh) Museum.

It was not till I visited Manchester in the Spring of 1891 that I could

date the palmette tomb amulets to the Twelfth Dynasty. Other observations as to date of the lotus palmette were mainly subsequent to this. It was Mrs. Professor Huggins, wife of the English astronomer, who first sent me word of the dated type for the Nineteenth Dynasty. It was not till 1891 that I found the motive in stone carving at Karnak. Aside from my own publications the Egyptian lotus palmette and its foreign copies have so far been passed over without mention, and yet they are the exact original of the Greek anthemion, and it was clearly on imported Phenician and Egyptian metals, bronze, gold and silver, that the Greeks first came in contact with the form. This is apparent from the large Phenician patterns on bronze in the Etruscan Museum of the Vatican and in the Etruscan collections of Florence, and is especially evident also from similar patterns on Cypriote works in metal (page 287).

Let us now remember that the Greek anthemion has so far been assumed to derive from the Assyrian palmette* (the "honey-suckle" theory scarcely deserves mention), and that this again is supposed to derive from the palm tree, although no one has been able to

* See October Number, 1893.



Gold lotus palmette in Boston Museum. Originally enamelled. Part of a tray handle.



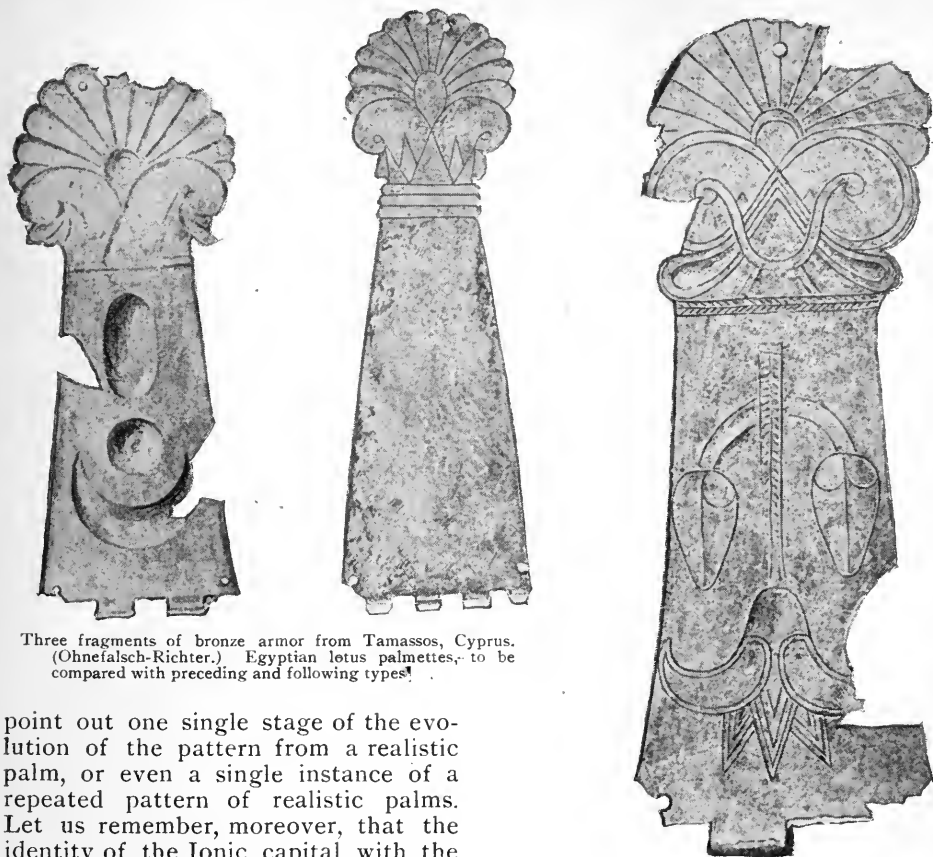
Lotus palmette, Detail of a tomb pattern.



Enamel lotus palmette from a necklace. British Museum. XIXth Dynasty.



Egyptian lotus palmette in bronze repousse. From an Etruscan tomb.

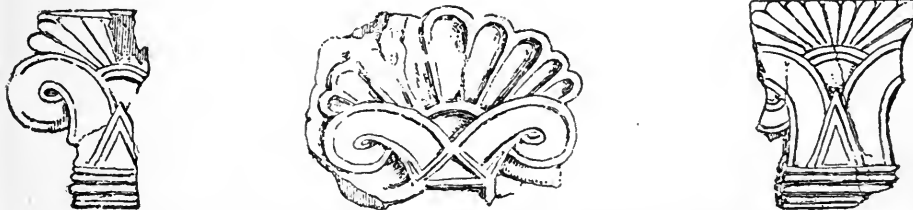


Three fragments of bronze armor from Tamassos, Cyprus. (Ohnefalsch-Richter.) Egyptian lotus palmettes, to be compared with preceding and following types.

point out one single stage of the evolution of the pattern from a realistic palm, or even a single instance of a repeated pattern of realistic palms. Let us remember, moreover, that the identity of the Ionic capital with the anthemion has been shown by Dr. Clarke,* and that the Ionic capital must now be conceded a lotus derivative. Let us remember, also, that the critic of the *Nation*, the critic of the London *Academy* (Dr. Tylor), and the critic of the *Revue Archéologique* (M. Foucard) have all failed to grasp the logic of my position and the incontestable identity of

the Egyptian lotus palmette with the anthemion of the Greeks. Here are the patterns side by side. The illustrations speak for themselves (page 288).

We have seen that the normal type of the Greek anthemion has a palmette crown (a demi-rosette), supported by Ionic volutes, and there are instances where we can point to an exact identity in the Greek form as compared with the Egyptian, even reaching to the

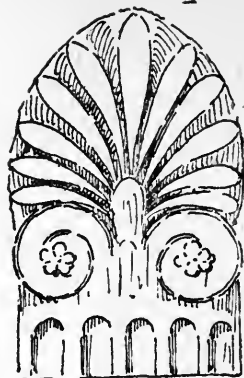


Lotus palmettes on ivory plaques from Nineveh, British Museum. Compare the Cypriote examples above, the Egyptian preceding, and the Greek to follow. The plaques from which these details are taken are of Egyptian style and origin.

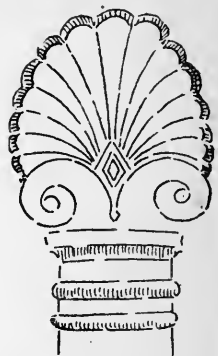
* See October Number, 1893.



Syria. Greek period. Detail from a bronze pitcher.



Greek terra-cotta antefix. Italy.



Head of a tombstone. From a Greek vase.

Greek anthemions to be compared with the foregoing lotus palmettes and with examples of the lotus palmette below.



Egyptian lotus palmette. Detail in bronze; from the Regulini-Galassi tomb, Etruria. Compare the Greek anthemions above.



Egyptian lotus palmette. Cypriote stone carving. Compare the Greek anthemions above.



Egyptian lotus palmette. Cypriote bronze relief repeated from preceding page. Compare the Greek anthemions above.

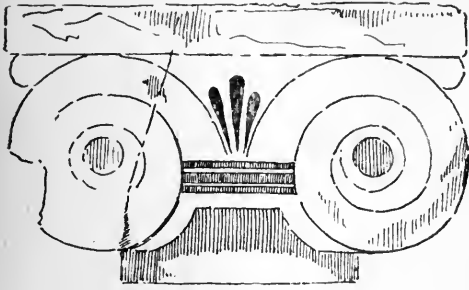
little pendant tabs which so constantly hang in Egyptian art from the inner side of the lotus volutes.

We are now able to return to the Ionic capital discovered in Asia Minor by Dr. Clarke,* to the Assyrian ivories which he rightly considered connecting links with the Assyrian palmette, and to formulate the proof that all these types are Egyptian.

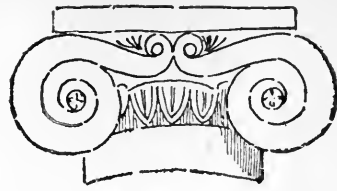
As regards the ivory plaques from Nineveh, which were probably decorations of thrones or furniture, their Egypto-Phenician origin has been always palpable and conceded by specialists, although this fact was unknown to Dr. Clarke. The Egyptian quality of these pieces is obvious in the plaque of the worshiper and the lotus which I have illustrated in my last Paper. These ivory details are consequently Egyptian in style and origin (cuts, page 287).

As regards the Ionic capital published by Dr. Clarke (the capital of Neandrea) it now falls in line with a series of similar ones which were subsequently discovered at Athens. It is an obvious variant of the Egyptian palmette and Greek anthemion, and both are lotus combinations. As regards the Assyrian palmette, its connection with the palm tree has not a vestige of valid authority nor a vestige of evidence in its favor. No palm trees can be shown in Assyrian patterns. By a pattern we understand a picture which is repeated to form a

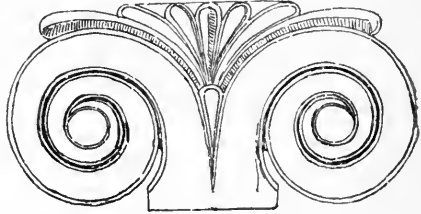
* October Number, 1893, and page 289, this Paper.



Ionic capital lately found at Athens.



Ionic capital lately found at Athens.

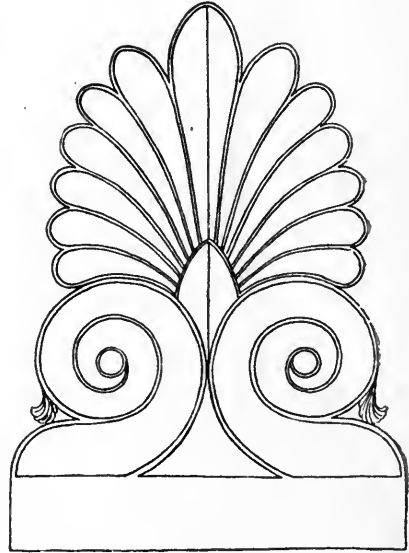


The capital of Neandrea; discovered by Dr. Clarke.

series. The Assyrian palm tree only appears in scenery backgrounds. On seals and cylinders it is isolated. When we remember that in Greek art the palmette and lotus constantly appear united in one repeated pattern it is evident that the advocate of the palm motive is bound to furnish as many instances of repeated realistic palms as I can furnish instances of repeated realistic lotuses. As a matter of fact the advocate of the palm motive cannot furnish one instance of repeated realistic palms. No connecting links between the palm tree and the Assyrian palmette in ornament can be quoted. Its fate is decided by that of the Greek anthemion.

To assert, or to take for granted without assertion, that the trunk of the palm tree was eliminated off-hand, without one single intermediate stage of conventional evolution, is the only recourse for the theory which connects the Assyrian palmette with the palm tree. Such an assertion, unsupported by even one single example in all ancient art, of a repeated pattern of palm trees, cannot satisfy a student who has observed the gradual course of other ornamental evolutions. At the very best, *all that could even be asserted* would be that the Assyrian palmette was independent of the Egyptian palmette and the Greek anthemion; for the identity of these latter forms is uncontestedly established by me. But the "Grammar of the Palm Tree" will not be written in this generation. The monuments are lacking.

A return to the illustrations for Median vases and patterns (pp. 273-277) completes the argument on the one hand and enables us to extend it on the



Anthemion of the Parthenon, derived from the lotus palmette. The above Ionic capitals are variants of the anthemion.

other to the freer designs of the Greek vases. Where brush work, not carving, was in question, it is evident that native Greek fancy and its independent decorative bent, carried the variations to a much wider extent, in which the remote poles of variation are consequently farther removed, but the unity of origin is still apparent.

I have excluded from this argument the continuous spiral scroll, the guil-

loche, the meander and the so-called ivy-leaf, because the proof is drawn largely from points which must be reserved for want of space; but students of ornament and of architectural ornament are best aware how far the whole field of Greek decorative art has been covered when the motives so far considered and their obvious variants have been admitted to be lotus derivatives. When we add the easily demonstrated egg-and-dart, and the leaf-and-dart motives and the very large number of variants of the trefoil and normal (or obvious) lotus in Greek ornament, I am sure it must be admitted that a new point of departure has been established for the history of Greek art, and consequently of Greek culture. The pattern, if transmitted from one nation to another, argues an object through which it has been transmitted. That object implies commerce, and commerce implies intercourse. The whole history of civilization is at stake in such a demonstration. Above all the theory of a continuity in history is strengthened. In so far as we derive from earlier and simpler elements forms and characteristics which have been supposed native to Greece, in so far we learn the lesson that humanity in general has reached its present conditions by evolution—not by a series of independent disconnected and unassisted efforts.

It is my wish to show that Greek conventional patterns go back to a system of magical beliefs centering in Egypt and to prove in doing so, that the history of the system of patterns which we know best through Greek developments, is the history of the rise and diffusion of later civilization from its great development in the valley of the Nile.

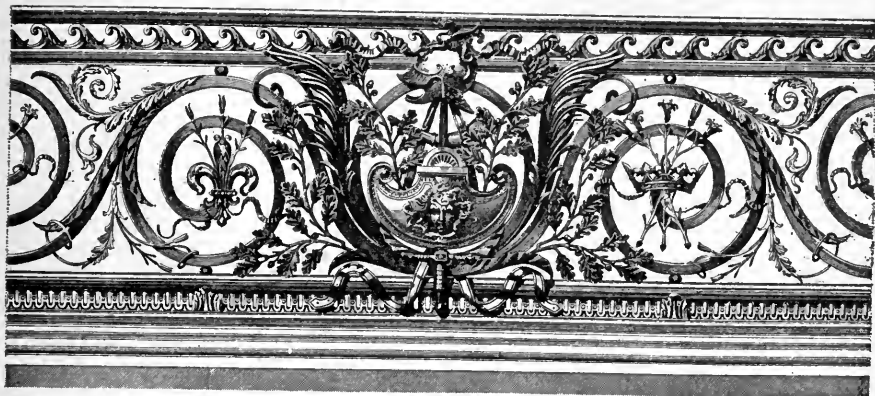
I do not minimize the importance of a contemporary Chaldean development, but I assert that in the period of later and borrowed Chaldean culture represented by Assyrian history a wave of culture influences from Egypt pene-

trated Mesopotamia, carrying its own patterns with it, and supplanting what may have previously existed, just as Italian Renaissance culture and patterns supplanted and displaced the Gothic culture and Gothic patterns of Northern Europe in the sixteenth century.

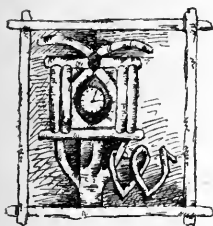
It must be admitted that the interest attaching to these observations is, in the first place, the interest of the historian, of the anthropologist, and of the partisan or advocate of Evolution. When it gradually dawned on me that all the wealth of Greek decorative art, so-called, had its origin in Egyptian solar symbolism, I saw that one more link could be forged in the chain which the general theory of Evolution is now constructing for the history of the human race. To attach the origins of painting and sculpture to fetish worship or to a belief in magic is to simplify history and to connect isolated facts in one more easily comprehended whole. To derive supposed purely decorative patterns from pictures which also had a magical significance and use is to not only to simplify history but is also to make the patterns interesting to hundreds or thousands who otherwise would never notice them. Moreover, archaeologists and students of Greek antiquity have been peculiarly grudging and backward in admitting a relationship between Greek culture and Egyptian, and they have been peculiarly forward in conceding to Assyria a credit which does not belong to her, excepting, it may be, to some degree, in a secondary sense. That Assyrian patterns reacted on the Greek may be conceded; but if they were derived from Egypt originally, then the credit belongs there originally. The Renaissance art of England came there from the Netherlands, from France and from Spain, but the credit for that art belongs to Italy. The relations of Assyria to Egypt were like those of Renaissance France and Spain to Renaissance Italy.

Wm. H. Goodyear.

(TO BE CONTINUED.)



LAST WORDS ABOUT THE WORLD'S FAIR.



H E T H E R the cloud-capped towers and the gorgeous palaces of the World's Fair are to dissolve, now that the insubstantial pageant of the Fair itself has faded, and to leave not a rack behind, is a question that is reported to agitate Chicago. There is much to be said, doubtless, on both sides of it. While it is still unsettled seems to be a good time to consider the architecture which it is proposed to preserve for yet awhile longer, in order to determine, so far as may be, what influence the display at Chicago is likely to have upon the development of American architecture, and how far that influence is likely to be good and how far to be bad. That it is likely to be in any degree bad is a proposition that may be startling and seem ungracious, but there is no reason why it should. Certainly to question the unmixed beneficence of its influence is not to pass the least criticism upon the architects, the brilliant success of whose labors for their own temporary and spectacular purpose has been admitted and admired by all the world. The very

brilliance of this success may constitute a danger in the imitation which it induces, if it induce any. Absolutely without influence such a display can hardly be. The promiscuous practitioner of architecture in America, or in any other modern country, is not of an analytical turn of mind. When things please him, he is not apt to inquire into the reasons why they please him, and to act accordingly. He is more apt to reproduce them as he finds them, so far as this is mechanically possible. For this process our time affords facilities unprecedented in history. Photographs are available of everything striking or memorable that has been built in the world, and that survives even in ruins. The "wander-years" of the young architect are not so necessary to him as they used to be. The necessity of travel, as part of a professional apprenticeship, had its advantages. On the spot one can see what he cannot see so well in photographs and sometimes cannot see at all, how much of its effect a building may owe to circumstances more or less adventitious to its design—to situation, to scale, to material, to color. The photograph enables him merely to reproduce what he admires, and increases

the desirableness that he should admire rightly; that he should admire with discrimination; that he should analyze what he admires far enough to find out what it is that he admires it for, and what it is that may be useful to him in his own work. To teach this is a large part of professional education. An architect who learns this will not be misled by the success of the buildings of the World's Fair into reproducing or imitating them, because he will know too well what are the necessary conditions of their effectiveness, and that these conditions cannot be reproduced except in another World's Fair, and not literally even there. Men bring not back the mastodon, nor we those times. It is, however, the architects who do not know these things with whom we have so largely to reckon, and it is upon such architects that the buildings in Jackson Park are more likely to impose themselves as models for more or less direct imitation in the solution of problems more usual. The results of such an imitation can hardly fail to be pernicious.

Doubtless the influence of the most admired group of buildings ever erected in this country, the public buildings at Washington not excepted, must be great. What it is likely to be has been expressed by Mr. Burnham, the Director of Works of the Columbian Exposition, in some remarks, published in a Chicago newspaper, which crystallize into a lucid and specific form a general hazy expectation, and which may well serve us for a text:

"The influence of the Exposition on architecture will be to inspire a reversion toward the pure ideal of the ancients. We have been in an inventive period, and have had rather contempt for the classics. Men evolved new ideas and imagined they could start a new school without much reference to the past. But action and reaction are equal, and the exterior and obvious result will be that men will strive to do classic architecture. In this effort there will be many failures. It requires long and fine training to design on classic lines. The simpler the expression of true art the more difficult it is to obtain.

"The intellectual reflex of the Exposition will be shown in a demand for better architecture, and designers will be obliged to abandon their incoherent originalities and study the ancient masters of building. There is shown so much of fine architecture here that people have seen and appreciated this. It will be unavailing here-

after to say that great classic forms are undesirable. The people have the vision before them here, and words cannot efface it."

Doubtless the architecture of the Exposition will inspire a great many classic buildings, which will be better or worse done according to the training of the designers, but it is not likely that any of these will even dimly recall, and quite impossible that they should equal the architectural triumph of the Fair. The influence of the Exposition, so far as it leads to direct imitation, seems to us an unhelpful rather than a hopeful sign, not a promise so much as a threat. Such an imitation will so ignore the conditions that have made the architectural success of the Fair that it is worth while to try to discern and to state these conditions, and that is the purpose of this paper.

In the first place the success is first of all a success of unity, a triumph of *ensemble*. The whole is better than any of its parts and greater than all its parts, and its effect is one and indivisible. We are speaking now of the Court of Honor, which alone it is proposed to preserve, and which forms an architectural whole. The proposal to remove the largest building of the group, that of Manufactures, and to set it up by itself in a permanent form on the lake front in Chicago, though the proposition was not made by an architect, is an excellent illustration how easy it is to mistake the significance of the architecture and the causes of its success. It is a masterpiece of misappreciation. The landscape plan of the Fair, with the great basin, open at one end to the lake and cut midway by canals, may be said to have generated the architecture of the Court of Honor. Any group of educated architects who had assembled to consider the problem presented by the plan must have taken much the same course that was in fact taken. The solution of the problem presented by the plan was in outline given by the plan. That the treatment of the border of this symmetrical basin should be symmetrical, that the confronting buildings should balance each other, these were requirements obviously in the interest of unity and a general unity was obviously

the result to be sought and the best result that could be attained. The conditions of this unity were all that it was necessary to stipulate for. Variety enough had been secured by the selection of an individual designer for each of the great buildings, and the danger was that this variety would be excessive, that it would degenerate into a miscellany. Against this danger it was necessary to guard if the buildings should appear as the work of collaborators rather than of competitors, and it was guarded against by two very simple but quite sufficient conditions. One was that there should be a uniform cornice-line of sixty feet, the other that the architecture should be classic. The first requirement, keeping a virtually continuous sky-line all around the Court of Honor, and preventing that line from becoming an irregular serration, was so plainly necessary that it is not necessary to spend any words in justifying it. The second may seem more disputable, but in reality it was almost as much a matter of course as the first. Uniformity in size is no more necessary to unity than uniformity in treatment, and classic architecture was more eligible than any other for many tolerably obvious reasons. There are perhaps no effects attained in the exhibition that could not have been attained in other architecture. The obvious effect of the "magnitude, succession, and uniformity," which the æstheticians describe as the conditions of the "artificial infinite" has been sought and attained in the treatment of the great buildings. Interminable, or for æsthetic purposes, infinite series is the source of the impressiveness of the largest of the buildings, of the long colonnades of Machinery Hall, and the still longer arcades of the Manufactures building. The unusual, in the case of the latter building the unprecedented, length at the disposal of the designer made this the most easy and obvious method of making a great impression. That it is the most easy and obvious is proved by the fact that it was the first, nor has it ever been carried further than in the earliest examples, in the colonnades of Karnac and Thebes that

were the very beginnings of monumental architecture. These pillared avenues exhibit the effect of repetition as completely as it is exhibited in the exterior colonnades of the Greeks—

Or where, from Pluto's garden Palatine
Mulciber's columns gleam in far piazzan line.

This effect impressed the first Egyptian builders as it impressed the Greek and Roman builders, as it impressed Keats, whose impression of it we have just transcribed; as it impressed Turner, whose dreams of classic architecture were made real in Jackson Park.

As we say, this is an effect by no means peculiar to classic architecture. It may be found in the flank of a Gothic cathedral as well as in the flank of a peripteral Greek temple. One of the most familiar illustrations of it is the front of the cloth-hall of Ypres, and the most conspicuous illustration of it in the World's Fair is the side of the Manufactures building. As each of these examples proves, it is an effect that does not depend upon classic forms and may be attained in an arcade as well as in a colonnade, since the Manufactures building, alone of all the great buildings, is *astylar*, and, indeed, is scarcely designated as classic except by the pillared pavilions at the angles and the reproduction of the arch of Constantine at the centre of each front.

Nevertheless, the choice of classic architecture was almost as distinctly imposed upon the associated architects as the choice of a uniform cornice line. In the first place, the study of classic architecture is a usual, almost an invariable part of the professional training of the architects of our time. It is an indispensable part, wherever that training is administered academically, and most of all at Paris, of which the influence upon our own architecture is manifestly increasing and is at present dominant. Most of the architects of the World's Fair are of Parisian training, and those of them who are not have felt the influence of that contemporary school of architecture which is most highly organized and possesses the longest and the most powerful tradition. Presumably, all of them were

familiar with the decorative use of "the orders" and knew what a module meant. What most of them had already practiced in academic exercises and studies, they were now for the first time permitted to project into actual execution. Nobody can fail to understand the comment of a distinguished French painter, made, possibly, in a satirical spirit: "On me dit que les bâtiments à Chicago sont des anciens concours des Beaux Arts." This is in fact the reflection that several of the buildings are calculated to excite, that their designs are the relics of student-competitions, while at least one such relic is alleged to have been built in Jackson Park.

That would be one good reason for the adoption of a given style—that all the persons concerned knew how to work in it. Another is that the classic forms, although originally developed from the conditions of masonic structure, have long since, and perhaps ever since they became "orders," been losing touch with their origin, until now they have become simply forms, which can be used without a suggestion of any real structure or any particular material. We know them in wood and metal, as well as in stone. They may be used, as they are used in Jackson Park, as a decorative envelope of any construction whatever without exciting in most observers any sense of incongruity, much less any sense of meanness such as is at once aroused by the sight of "carpenter's Gothic." A four-foot column, apparently of marble, may have aroused such a sentiment during the process of construction, when it might have been seen without a base and supported upon little sticks, with its apparent weight thus emphatically denied. Such a sentiment may have been aroused again in the closing days of the Fair, when it was no longer thought necessary to repair defects as fast as they showed themselves, and where the apparent masonry disclosed in places the lath-backing. But when the buildings were ready for the public no such incongruity was forced upon the observer, as it would have been forced upon him if the forms that were used had been such as are still asso-

ciated with the structure that gave rise to them. The alternative to the use of classic architecture was the development in a few months of an architecture of plaster, or "staff." For this there are no precedents completely available in the world, while the world is full of precedents for the employment of the orders, and precedents which do not imply that the orders are real and efficient constructions, as indeed they have never been since the Romans began to use columnar architecture as the decoration of an arched construction.

It is not to be supposed for a moment that the architects of the Fair would have attained anything like the success they did attain, if instead of working in a style with which all of them were presumably familiar, they had undertaken the Herculean task of creating a style out of these novel conditions. In fact the architects of the Court of Honor might "point with pride" to the result of such efforts as were made in that direction by other architects as a sufficient justification for their own course, if such a justification were needed.

The landscape-plan is the key to the pictorial success of the Fair as a whole, and, as we say it generated the architecture of the watercourt by supplying indications which sensitive architects had no choice but to follow. In no point was the skill of Mr. Olmsted and his associate more conspicuous than in the transition from the symmetrical and stately treatment of the basin to the irregular winding of the lagoon. As the basin indicated a bordering of formal and symmetrical architecture so the lagoon indicated and invited a picturesque and irregular architecture. Of the associated architects, those who most conspicuously availed themselves of this invitation were the designers of the Fisheries and of the Transportation building. The success of the former is not disputed nor disputable. The plan was determined by the requirements of the building and worked out very naturally into the central mass, the connecting arcades and the terminal pavilions, of which the form suggested the treatment of Romanesque baptisteries, and

may very possibly have determined the style of the building. There was ample scope left for the inventiveness of the designer in the detail conventionalized so happily and successfully from marine motives, and the success of this detail of itself vindicates the author's choice of a style and passes a conclusive criticism upon the choice of classic architecture for his purpose. Not only would his spirited and ingenious detail have been sacrificed, but the general composition of his building could not have been attained by the use of classic forms without doing violence both to the letter and to the spirit of them. But that he was right for his purpose proves all the more that the architects of the Court of Honor were right for theirs. One can imagine, perhaps, that the Court of Honor might have been lined with buildings in the style of the Fisheries building, and yet not have lost the unity it now possesses provided all the buildings had been done by the same designer and he had been unlimited in the time required to meditate his design. But one cannot imagine that an equal effect of unity could have been gained by a number of architects, working under pressure, if they had chosen a free and romantic instead of a formal and classic style.

The Transportation building bears still stronger testimony to the same effect, since, while everybody finds it interesting and suggestive, nobody ventures to say that it is distinctly and, on the whole, successful. It is the most ambitious of all the great buildings, for it is nothing less than an attempt to create a plaster architecture. Even the Fisheries building, free as it is in design, bears no reference in its design to its material. It is not a building of staff but a simulacrum of a building in masonry. In the Transportation building alone has it been undertaken architecturally to treat the material of which all the buildings are composed. To comprehend the ambitiousness of the attempt one has only to bear in mind that there is no such thing as an exterior architecture of plaster in the world. The "half-timbered" constructions of Europe and the adobe of

our own continent do not carry us very far. The Saracens, indeed, attained an interior architecture of plaster, and this architecture comprises all the precedents that were available for the architects of the Transportation building. The outsides of those Saracenic buildings of which the interiors are most admired are not only of masonry, but some of them are little more than dead walls. One cannot fail to respect the courage and sincerity with which the architects of the Transportation building tackled their task, even though he find in the result a justification for the architects who have forborne the attempt. It was here a perfectly legitimate attempt, since the Transportation building does not form part of an architectural group, and a separate and distinctive treatment was not a grievance to the spectator, nor to the architects of any other buildings, though it was rather curiously resented by some of these. That it is a plaster building is entirely evident, as evident in a photograph as in the fact. It cannot be called an "incoherent originality," for its departures from convention are evidently the result of a studious analysis. A plaster wall is especially in need of protection by an ample cornice, and the ample cornice is provided. But the mouldings that are appropriate to masonry are meaningless in plaster, and the wall is a dead expanse, that would be entirely devoid of interest if left alone. Whether it could not profitably have been enlivened in the Saracenic manner by patterns stamped in relief—a treatment especially adapted to the material—is a question that the designers might perhaps profitably have entertained. But at any rate they determined to enliven the expanse only with color, and the color treatment is not successful. The most pretentious and perhaps the most successful feature of it—the famous Golden Doorway—suffers from being an isolated fragment, entirely unrelated to the general scheme, and its admirable detail does not for this reason excite the admiration it deserves. The moulded ornament in this, however, is less successful than the moulded ornament elsewhere in the

building, which is charged with an astonishing spirit and inventiveness and which is, moreover, unmistakably moulded ornament, neither imitative of nor imitable by the work of the chisel. There is certainly no better detail than this in the Fair grounds, but it also loses much of the effect to which it is entitled by its surroundings, and especially by its association with the queerest sculpture that is to be seen on the grounds, and that is saying a great deal. The comparative failure of the color-decoration is very pardonable in so difficult and so unprecedented an essay, but it entails the comparative failure of the design of which it is an integral part, quite independently of other defects in that design.

But, perhaps, the strongest proof of the good judgment of the architects of the Court of Honor is that the effect of unity is not disturbed by those buildings that are in themselves the least successful. "Classic" is a very comprehensive term, if one include under it, as one must, everything that owes its origin to the Greeks, from their own work to the latest developments of the Renaissance, and yet a certain family-likeness is traceable in all these things. The trail of "the orders" is over them all. There is indeed, and rather curiously, no example of Grecian architecture in the Court of Honor. Nobody would hesitate to describe the Art building at the other end of the lagoon, as an example of a Greek revival, in spite of its arches. The expansion of the Erechtheum into a vast building has been managed, as everybody agrees, with great skill and with a result that is Grecian both in letter and in spirit. The most truly Grecian in spirit, perhaps, of the buildings of the Court of Honor is the Agricultural building. Though its Hellenism appears only in the subtlety and delicacy of the design, and is of the spirit and not at all of the letter, its designer is entitled to some of the praise which Swinburne bestowed upon Landor—

And through the trumpet of a child of Rome
Rang the pure music of the flutes of Greece.

There have been critics who insist that, comprehensive as it is, the epithet "classic" is not comprehensive enough

to take in all the architecture of the Court of Honor. One of these critics, a Frenchman, found himself unable to reconcile the more fantastic erections with the rest of the architecture of the Court. He referred, it is to be presumed, to the steeples of Machinery Hall, and the belvederes of the building of Electricity, and he failed to perceive the motive of the introduction, which apparently was to give the buildings as much "Americanism" or Columbianism as was compatible with classicism by borrowing suggestions from the Spanish Renaissance in which were erected the earliest of the European buildings of the new continent. The incongruity is obvious enough, for nothing could be less like classic severity than any suspicion of *bizarrerie*, and *bizarrerie* is characteristic of the exuberance of the Spanish builders of the Renaissance. Perhaps it becomes even rather violent in the contrast between the severe colonnades and the fantastic steeples of Machinery Hall, and one may reasonably wish that the steeples had been omitted even at the sacrifice of the Columbianism. If the incongruity be less apparent in the Electricity building, that is perhaps because that edifice had less character to be disturbed or contradicted, and that one cannot so readily designate any particular feature that prevents it from attaining style, either in the academic or in the æsthetic sense of the term. The Mining building is a much franker example of modern Americanism, franker even than the treatment of the Manufactures' building, although the classicism of that is visible only in the monumental entrances and pavilions. No sensitive beholder, with the greatest willingness in the world to admire, could succeed in admiring the Mining building if it stood alone, and he would have his difficulties with the Electrical building, in spite of such features as the double apse at the north end and the large half-domed entrance at the south. But the great advantage of adopting a uniform treatment, even when the uniformity is so very general as is denoted by the term classic, and even when the term has been so loosely

interpreted, as it has been by some of the associated designers in Jackson Park, is that the less successful designs do not hinder an appreciation of the more successful, nor disturb the general sense of unity in an extensive scheme, which is so much more valuable and impressive than the merits of the best of the designs taken singly. Our enjoyment of the Administration building or of the Agricultural building might be very seriously marred by the juxtaposition of buildings equally good unrelated in scale or in manner, while it is not marred by the actual surroundings. The scheme, of a group of monumental buildings, does not depend for its effectiveness upon the equal excellence, or even, as we cannot help seeing, upon the positive excellence of all the parts that go to make it up. It is a scheme and it has been carried out not only in the huge buildings of unequal merit that we have been considering, but in all the accessories of a monumental composition. This has been done with noteworthy skill and discretion in the peristyle and its flanking buildings, and in the terminal station, any one of which, if done without reference to the rest, under the inspiration of what Mr. Burnham calls an "incoherent originality" or even a coherent originality might have gone for to spoil the whole. It has been carried out also in the minor details that are scarcely noticeable in their places, but that would have been painfully noticeable if they had been out of place, in the plazas and the bridges and the promenades that are the accessories of a pompous architectural composition. It has been carried out too in the sculptural adornment, not only of the building but of the grounds, while in the sculpture it is even more evident to the wayfaring man than in the architecture that the effect of the whole does not depend upon the excellence of the parts, and that sculpture that will not bear an analytic inspection may contribute, almost as effectively as sculpture that will, to the decoration of a great pleasance and the entertainment of a holiday crowd. The condition upon which the effect-

iveness of the whole depends is that there shall be a whole, that there shall be a general plan to the execution of which every architect and every sculptor and every decorator concerned shall contribute. That condition has been fulfilled in the architecture of the Exposition, at least in the architecture of the "Court of Honor," which is what everybody means when he speaks of the architecture of the Exposition, and it is by the fulfillment of this condition that the success of the Fair has been attained. That success is, first of all, a success of unity.

II.

Next after unity, as a source and explanation of the unique impression made by the World's Fair buildings, comes magnitude. It may even be questioned whether it should not come first in an endeavor to account for that impression. If it be put second, it is only because unity, from an artistic point of view, is an achievement, while magnitude from that point of view, is merely an advantage. The buildings are impressive by their size, and this impressiveness is enhanced by their number. Mere bigness is the easiest, speaking æsthetically, though practically it may be the most difficult to attain, of all the means to an effect. It constitutes an opportunity, and one's judgment upon the result, as a work of art, depends upon the skill with which the opportunity has been embraced and employed. But bigness tells all the same, and the critical observer can no more emancipate himself from the effect of it than the uncritical, though he is the better able to allow for it. In this country mere bigness counts for more than anywhere else, and in Chicago, the citadel of the superlative degree, it counts for more, perhaps, than it counts for elsewhere in this country. To say of anything that it is the "greatest" thing of its kind in the world is a very favorite form of advertisement in Chicago. One cannot escape hearing it and seeing it there a dozen times a day, nor from noting the concomitant assumption that the biggest is the best. This assumption was

very naively made by the enthusiastic citizen whose proposition we have already noted to occupy the Lake Front, which is one of the few features of the city of Chicago and one of the most attractive of them, with a full-sized reproduction of the Manufactures building. If one ask why Manufactures building, the civic patriot has his answer ready: "Because it is the biggest thing on earth," as indeed it is, having not much less than twice the area of the Great Pyramid, the type of erections that are effective by sheer magnitude. The Great Pyramid appeals to the imagination by its antiquity and its mystery as well as to the senses by its magnitude, but it would be impossible to erect anything whatever of the size of the Manufactures building or even of the Great Pyramid that would not forbid apathy in its presence. A pile of barrels so big as that would strike the spectator. It would be a monument of human labor, even though the labor had been misdirected, and the evidence of crude labor, if it be on a large enough scale, is effective as well as the evidence of artistic handicraft, though of course neither in the same kind nor in the same degree. "These huge structures and pyramidal immensities" would make their appeal successfully though they were merely huge and immense brute masses quite innocent of art. The art that is shown in this respect is in the development of the magnitude, the carrying further of an inherent and necessary effect and the leading of the spectator to an appreciation of the magnitude by devices that magnify and intensify the impression it makes. That is to say, the art consists in giving it scale. It is a final censure upon the treatment of a piece of architecture which aims at overpowering the spectator by its size that it does not look its size; as is the current and accepted criticism upon St. Peter's. To quote the æstheticians again, succession and uniformity are as essential as magnitude to the "artificial infinite," and it is necessary to it that there should be a repetition, an interminable repetition of the unit, the incessant application of the module. It is an effect quite independent of the

style. The bay of a cathedral may furnish the unit as well as the order of a Grecian temple. But it is an effect that depends very greatly upon magnitude. The example of it we have already cited from Gothic architecture, the cloth-hall of Ypres, is perhaps the most striking that mediæval architecture supplies, seeing that the design is a repetition of the unit, in this case a pointed arch, from end to end of an otherwise unbroken expanse of wall 440 feet long. But this extent, impressive as it is, and heightened as its impressiveness is by the skill of the designer, becomes insignificant when it is compared with the flank of the Manufactures building, which is nearly four times as long as the front of Ypres, and of which the arcade in either wing must be quite half as long again as the Belgian arcade. Either of the colonnaded wings of Machinery Hall, of which, by the way, the treatment is almost literally identical with that of the wings of the Capitol at Washington, must be nearly as long as the whole front of Ypres.

The devices by which these inordinate dimensions are brought home to the comprehension of the spectator are various, but they consist, in most cases, at least of a plinth and a parapet in which the height of a man is recalled, as in an architectural drawing the draughtsman puts in a human figure "to give the scale." While the Fair was in progress the moving crowds supplied the scale, but this was given also by all the architectural appurtenances, the parapets of the bridges and the railings of the wharves, so that the magnitude of the buildings was everywhere forced upon the sense. To give scale is also the chief contribution to the effect of a general survey that is made by the accessory and decorative sculpture of the buildings and of the grounds. In this respect, and without reference to their merits strictly as sculpture, the statuary that surmounts the piers and cupolas of the Agricultural building and that with which the angles of the Administration building bristle are particularly fortunate. On the other hand the figures of the peristyle were unfortunate, being too big and insistent for

their architectural function of mere finials.

It would be pleasant to consider in detail the excellencies of the buildings that are most admirable, and the sources of their effectiveness, and to consider, also, the causes of the shortcomings of the less successful buildings. But the success of the architectural group, as a whole, is a success not disturbed by the shortcomings and the consequent success of the associated architects from their own point of view and for their special purpose, is a matter upon which we are all agreed. It is only with the influence of what has been done in Jackson Park upon the architecture of the country that we are now concerned; with the suitability of it for general reproduction or imitation, and with the results that are likely to follow that process, if pursued in the customary manner of the American architect. The danger is that that designer, failing to analyze the sources of the success of the Fair will miss the point. * The most obvious way in which he can miss it is by expecting a reproduction of the success of one of the big buildings by reproducing it in a building of ordinary dimensions. It is necessary, if he is to avoid this, that he should bear in mind how much of the effect of one of the big buildings comes from its very bigness, and would disappear from a reproduction in miniature.

III.

There is still another cause for the success of the World's Fair buildings, a cause that contributes more to the effect of them, perhaps, than both the causes we have already set down put together. It is this which at once most completely justifies the architects of the Exposition in the course they have adopted, and goes furthest to render the results of that course ineligible for reproduction or for imitation in the solution of the more ordinary problems of the American architect. The success of the architecture at the World's Fair is not only a success of unity, and a success of magnitude. It is also and very eminently a success of illusion.

What the World's Fair buildings

have first of all to tell us, and what they tell equally to a casual glimpse and to a prolonged survey is that they are examples not of work-a-day building, but of holiday building, that the purpose of their erection is festal and temporary, in a word that the display is a display and a triumph of occasional architecture. As Mr. Burnham well described it, it is a "vision" of beauty that he and his co-workers have presented to us, and the description implies, what our recollections confirm, that it is an illusion that has here been provided for our delight. It was the task of the architects to provide the stage-setting for an unexampled spectacle. They have realized in plaster that gives us the illusion of monumental masonry a painter's dream of Roman architecture. In Turner's fantasies we have its prototype much more nearly than in any actual erection that has ever been seen in the world before. It is the province and privilege of the painter to see visions and of the poet to dream dreams. They are unhampered by material considerations of structure of material or of cost. They can imagine unrealizable centaurs and dragons, gorgons, hydras and chimeras dire and in turn affect our imaginations with these. The question how the centaur can subsist, with two sets of respiratory and digestive organs superposed, does not disturb them nor us while we remain under their spell. To quarrel with the incredibilities they ask us to accept is to show not only a hopelessly prosaic but a hopelessly pedantic spirit. One might as well quarrel with the scene-painter because his scenery is not what it purports to be, and accuse him of deceit so far as his illusion is successful instead of being grateful to him that he literally does, for the moment, "illude" and play upon our credulity.

"Pictoribus atque poetis
Quidlibet andendi semper fuit aequa potestas;
Scimus et hanc veniam petinusque damusque
vicissim."

The poet's or the painter's spell or the spell of the architect of an "unsubstantial pageant" cannot be wrought upon the spectator who refuses to

take the wonder-worker's point of view. and instead of yielding himself to the influence of the spectacle insists upon analyzing its parts and exposing its incongruities. There would be a want of sense as well as a want of imagination in pursuing this course and criticising a passing show as a permanent and serious piece of building.

It is the part of the spectator who would derive the utmost pleasure from the spectacle to ignore the little incongruities that he might detect, and loyally to assist the scenic artist in his make-believe. Nay, the consciousness of illusion is a part of the pleasure of the illusion. It is not a diminution but an increase of our delight to know that the cloud-capped towers, the gorgeous palaces, and the solemn temples, the images of which scenic art summons before us are in sober reality "the baseless fabric of a vision."

Such a pleasure and such an illusion the architects of Jackson Park have given us. The White City is the most integral, the most extensive, the most illusive piece of scenic architecture that has ever been seen. That is praise enough for its builders, without demanding for them the further praise of having made a useful and important contribution to the development of the architecture of the present, to the preparation of the architecture of the future. This is a praise that is not merely irrelevant to the praise they have won, but incompatible with it. It is essential to the illusion of a fairy city that it should not be an American city of the nineteenth century. It is a seaport on the coast of Bohemia, it is the capital of No Man's Land. It is what you will, so long as you will not take it for an American city of the nineteenth century, nor its architecture for the actual or the possible or even the ideal architecture of such a city. To fall into this confusion was to lose a great part of its charm, that part which consisted in the illusion that the White City was ten thousand miles and a thousand years away from the City of Chicago, and in oblivion of the reality that the two were contiguous and contemporaneous. Those of us who believe that architecture is the

correlation of structure and function, that if it is to be real and living and progressive, its forms must be the results of material and construction, sometimes find ourselves reproached with our admiration for these palaces in which this belief is so conspicuously ignored and set at naught. But there is no inconsistency in entertaining at the same time a hearty admiration for the Fair and its builders and the hope of an architecture which in form and detail shall be so widely different from it as superficially to have nothing in common with it. Arcadian architecture is one thing and American architecture is another. The value of unity, the value of magnitude are common to the two, but for the value of illusion in the one there must be substituted in the other, if it is to come to its fruition, the value of reality. We may applaud the skill of the stage-carpenter who gives us a theatric illusion without the slightest impulse to tell the common carpenter of every day to go and do likewise. In the world of dreams, illusion is all that we require. In the world of facts, illusion may be merely sham, and it suffices to say of what is presented for our acceptance that it is "not so." One can imagine what would be the result of an indiscriminate admiration of the buildings of the World's Fair. Nay, we do not need to resort to imagination, for have we not had our classic revival already? The prostylar villa in white pine remains to testify to it not less than the crop of domed state houses that sprang up in reproduction or in imitation of the Capitol at Washington. It is true that these were ill-done, even in the comparison with their immediate prototype, not to speak of their ultimate originals. As Mr. Burnham says, it requires long and fine training to design on classic lines, and this truth is impressed upon us when we come to make comparisons among the buildings even of the Fair itself. But granted the training, would a sensitive person desire to see even the best of these buildings reproduced for the adornment of an American town, apart from the setting that in Jackson Park so enhances the merits of the best and

redeems the defects of the worst? What would it be without the unity by which its greatest value is the contribution it makes to the total effect? Even if this could be in part retained by the reproduction of a fragment of the group, how ineffectual it would be on the scale of our ordinary building or even on a scale considerably larger than the ordinary building. Who that has seen the originals would care to have his recollection disturbed, under pretense of having it revived, by a miniature plaza, with a little Administration building at one end, flanked by a little Manufactures building and a little Machinery Hall? Above all, who would care to have the buildings reproduced without the atmosphere of illusion that enveloped them at Jackson Park and vulgarized by being brought into the light of common day? "This same truth is a naked and open daylight that doth not show the masques and mummeries and triumphs of the world half so stately and daintily as candle lights."

It was a common remark among visitors who saw the Fair for the first time that nothing they had read or seen pictured had given them an idea of it, or prepared them for what they

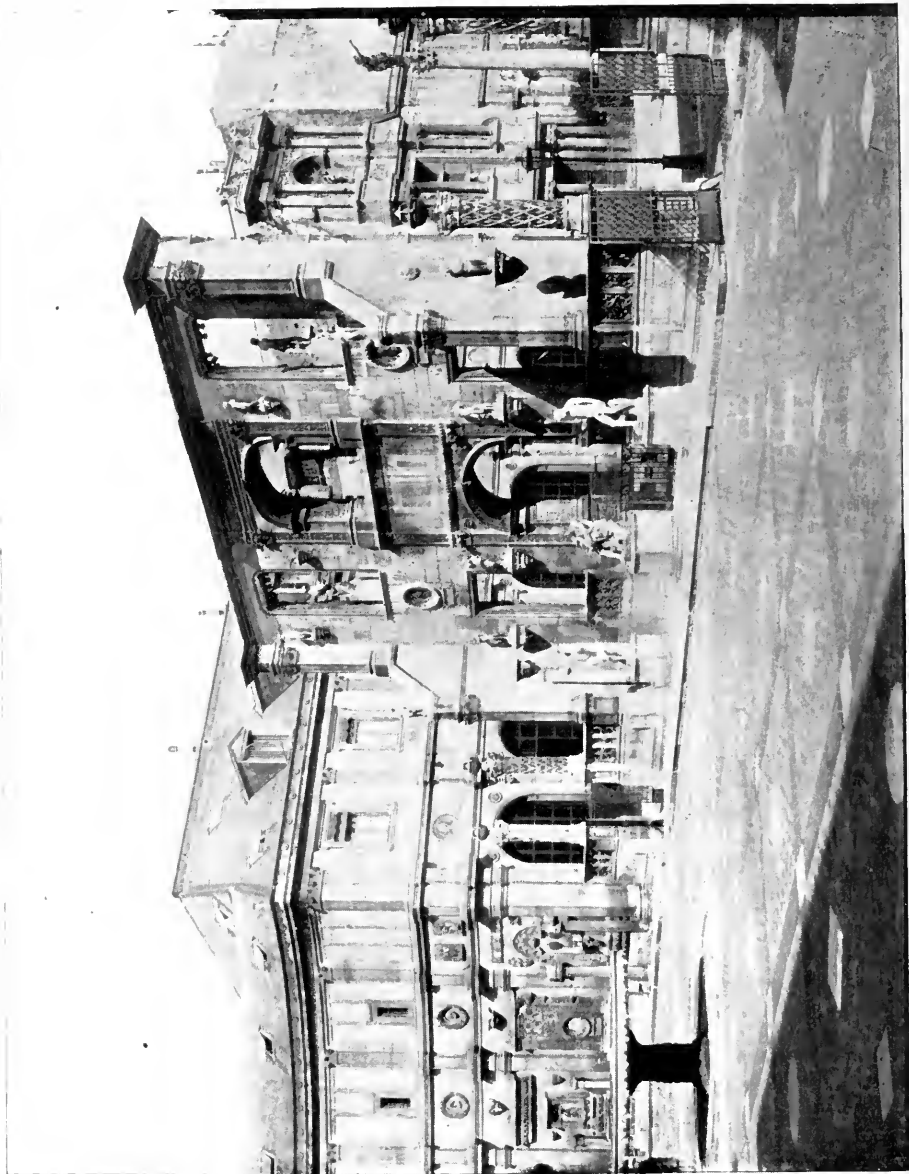
saw. The impression thus expressed is the impression we have been trying to analyze, of which the sources seem to be unity, magnitude and illusion, and the greatest of these is illusion. To reproduce or to imitate the buildings deprived of these irreproducible and inimitable advantages, would be an impossible task, and if it were possible it would not be desirable. For the art of architecture is not to produce illusions or imitations, but realities, organisms like those of nature. It is in the "naked and open daylight" that our architects must work, and they can only be diverted from their task of production by reproduction. It is not theirs to realize the dreams of painters, but to do such work as future painters may delight to dream of and to draw. If they work for their purposes as well as the classic builders wrought for theirs, then when they, in their turn, have become remote and mythical and classic, their work may become the material of an illusion, "such stuff as dreams are made of." But its very fitness for this purpose will depend upon its remoteness from current needs and current ideas, upon its irrelevancy to what will then be contemporary life.

Montgomery Schuyler.





MAIN BUILDING, FROM THE COURT ON RUE BONAPARTE.



COURT AT THE LIBRARY.

court, stands the principal building of the group, presenting a noble façade, consisting of a Corinthian arcade on a bold basement, and surmounted by an elegant attic, in the centre of which a large tablet of colored marble bears the inscription, "École Nationale et Spéciale des Beaux-Arts." Above waves the Tricolor. To the left of this building, and separated from it by a grille, is another court, known as the "Cour des Loges," flanked at the south by a large, uninteresting building containing the loges, which will be described later. To the right is the charming old garden of the Hôtel Chimay, which has recently been acquired by the Government and added to the school. At the right of the main court, a low range of buildings contains two large hemicycles preceded by a great vestibule, over which are located some of the offices of Administration. From this vestibule "d'Ingres," a corridor at either side connects with the cloisters of a small court, "Cour du Murrier." Along the walls of the corridors and cloisters are colored casts of the terra cotta frieze of the Ospedale del Ceppo at Pistoja. Under the arches are statues of bronze and marble. To one beautiful bronze cast, from an unfinished clay model, is attached a pathetic story. The sculptor was a poor young man, who came within one of gaining the "Grand Prix de Rome." Undaunted by his failure he went to Rome on his own account to brave every privation for the sake of the art he loved. The winter was unusually severe. One night the cold was so intense that he feared lest the clay of the statue he was modeling should freeze, so taking the coverings from his bed he wrapped them about the clay. In the morning the statue was found uninjured, but the young man was found dead, frozen stiff in his bed. The French Government ordered the unfinished model cast in everlasting bronze and placed in this honorable position in the heart of the school. M. Charles Blanc says of this statue: "Nothing more worthy of honor, as a work of art, has ever been received by France from Rome."

To the west of this court the build-

ings contain lecture rooms and ateliers. At the north, monumental steps lead to the great hall Melpomène, where exhibitions are held. To the right of this hall, in a series of galleries, are preserved the pictures which have won the "Grand Prix" in former years. On the left are ateliers. Other exhibition halls and a grand vestibule are to the north, and face the Quai Malaquais. Returning to the main court on the Rue Bonaparte, one passes the grille and enters the further court in front of the principal building. In the centre stands a great stone basin, thirteen feet in diameter, supported on a single shaft. Heads of gods and heroes are carved about the edge, a work of the twelfth century taken from the monastery of St. Denis. Ranged around the sides of the court are marble statues; copies from the antique; works of the pensioners at Rome; also numerous fragments from buildings destroyed at the time of the Revolution. On entering the building, one finds himself in a very large and lofty vestibule, adorned with columns, and in which are casts from the antique. Beyond the vestibule is a central court roofed with glass, and also containing casts and two groups of columns, size of the originals, from the Temple of Jupiter Stator at Rome, and the Parthenon at Athens. Beyond this court is the celebrated hemicycle of Paul Delaroche. It is finely proportioned and splendidly decorated, the semi-circular wall being covered with one immense picture, representing the principal artists of all times and nations. There are seventy-five colossal figures, each twenty-three feet high. In the centre on a throne sit Phidias, Apelles and Ictinus.

On the first story and over the main vestibule is the library—a long gallery extending almost the whole length of the building, having at either end vestibules with stately Corinthian columns. The ceiling is richly coffered and the woodwork is carved oak. On the side towards the court is a range of great windows; against the piers stand busts of distinguished artists. On the other side the books extend from floor to ceiling, separated midway by a gallery, with a fine brass balustrade. Down the

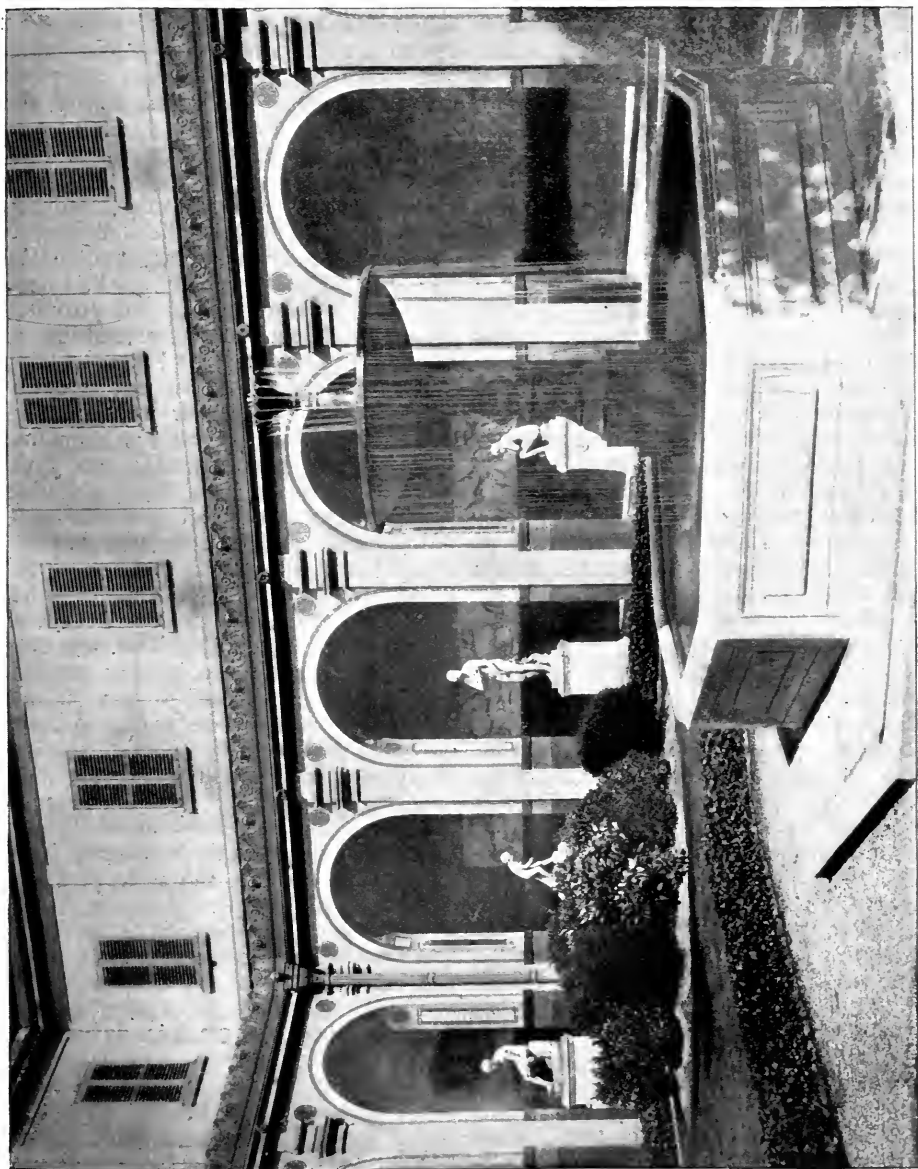
centre of the room extends a long line of desks, tables and cases, on which are placed models of antique buildings. The room has about it an air of refinement and elegance which I have never seen equaled. The great wall of books, mostly richly-bound folios, produces an effect of surprising richness. Many of the documents preserved here are unique, being the work of the pensioners at Rome, and form a collection of measured drawings and restorations from ancient buildings, probably the most complete and trustworthy that exists. On the Quai Malaquais, adjoining the other buildings to the west, stands the Hotel Chimay, purchased by the Government in 1885 and recently fitted up as ateliers.

From this hurried description of the buildings, one can form an idea of their vast proportions. But large as they are, they give but a partial idea of the size of the school, for most of the work is done off the premises, in the ateliers scattered all about the neighborhood. These number from fifteen to twenty, while those on the premises devoted to architecture are but three.

I shall now endeavor to explain the seemingly intricate, but really very simple and most efficient system of instruction. First let us begin with the entrance examinations, a subject of peculiar interest to many young Americans who intend to become architects. The school is free, supported by the Government. The appliances gathered here for a training in art are such as only a nation like France could accumulate in centuries, and such as is not found elsewhere in the world. The reputation of the school is such that there is no second. Naturally admission to it is eagerly sought, but alas there are barriers to be surmounted before one can enter. The Government has no intention of wasting the public funds on unpromising aspirants. The examinations take place twice in each year, in the months of March and July. Between two and three hundred apply, and only about one-eighth of that number are received. Recently the number of admissions was limited to thirty. The examinations consist of architectural composition, modeling in clay,

drawing from cast, descriptive geometry, plane and solid geometry, algebra, arithmetic and history. The first three are called "admissibles." If these are not successfully passed, one is debarred from taking the others. Perhaps the best way to give a clear idea of this trying ordeal will be to describe my own experience.

Having secured a letter of introduction from the United States Minister, which is necessary, I presented myself at the school and was enrolled on the list of aspirants for the next examination. Before nine o'clock on the appointed day I found myself, with about two hundred others, in the "Cour des Loges," armed with drawing board, T-squares, triangles, and drawing instruments. Monsieur Barbier, Chief Guardian, "Département d'Architecture," resplendent in his uniform and cocked hat, mounts the steps, orders one of his lieutenants to lock the gate to the court, then to make matters perfectly fair, he takes a small dictionary from his pocket, opens it in the middle, and selects the letter which first meets his eye, from which to begin the roll. Naturally the roll generally commences at about the middle of the alphabet. Then follows an interminable list of names. Each one, as he is called, enters and signs a register. I, who know no French, strain my ears for something which resembles my name, with the result that I bring up the rear amid a volley of what I take to be French profanity from Monsieur Barbier, who has to correct his register, and who has no great love for "*les étrangers*" under any circumstances. I mount five flights of stairs and find myself in a room about thirty feet wide, but of tremendous length. At the door I am handed a programme, an imposing document lithographed on a large sheet. Along the room on either side extends a row of stalls, for all the world like those of a stable; these are called loges. In the centre are long tables. Each loge has a shelf, which for one to work on, and a small window. The first to arrive occupy the stalls, those who come later must content themselves with the tables, where the light is very bad. One is free to walk



COUR DU MURRIER.

about as he pleases and to make all the noise he cares to, and each individual of the two hundred or more present is availing himself of these privileges to the utmost. At one end of the room a crowd are having great fun celebrating mass. One acts as a priest and sings the principal part while the others join in the chorus. At the proper time some one rings on a glass in imitation of the bell. The priest acts his part to perfection and is loudly applauded. Then some one cries "Vive Boulanger," and the whole room echoes with cries of "Vive Boulanger," "A 'bas Boulanger."

Many present are old hands who have tried the examinations before, without success, and feel at home. Some even have the hardihood to propose an initiation of the newcomers (reception des nouveaux). It is now about eleven o'clock and time for déjeuner or breakfast. I notice a great many issuing from a door half way down the room with eatables, and upon investigation I find it leads to a sort of kitchen, where bread, sandwiches, coffee and wine can be bought; the latter at seven cents a bottle. The whole company are now regaling themselves at the tables, which presently literally flow with wine and coffee. Suddenly there is a great crash and shouts. Some one has knocked the legs from under one of the tables. Bottles, plates, etc., fall in a heap on the tiles. This is too much even for the uniformed guardian, who has thus far been standing stoically with his hands behind his back near the door, and his voice is now added to the general uproar. Dejeuner over, the tables righted and the wine mopped up, work finally begins. Most of those present repair to the stalls and scrutinize the programme. There is an immense amount of visiting from one stall to another in search of ideas from those supposed to be strong (*les types forts*), but the room is comparatively quiet, with only an occasional cry of "Vive Boulanger," cat calls, and songs from various quarters. The programme calls for a little "portique," to form a point of view from a chateau, and to serve as a shelter for eight statues, owned by the proprietor, the building to be erected

upon terraces in which can be arranged grottoes, etc. The greatest dimension is given, also the scale at which the plan, section and elevation are to be drawn; a detail of the order must be made at a larger scale. The time allowed is nominally twelve hours, but as the various preliminaries described above occupy so much time, and as the guardians are in a great hurry to go home to their dinner, the actual time which one can work is only a little over eight hours. I work as I never worked before, but, do my best, the light begins to fade before I have washed in the shadows on the elevation. I had been warned to take candles, and provided myself with six; taking possession of one of the now deserted loges, I rashly proceed to light them all, but it is not long before I discover my mistake. Some one passing gives a whoop, and in a moment half of those left are gathered in front of the loge shouting "quelle illumination! oh yes! oh yes! * mon dieu! quelle illumination!" I think I am going to be mobbed by the dancing crowd, and it is some time before the excitement sufficiently subsides for me to resume work. The next day, and in the same place, follows the examination in modeling in clay. Each student is required to bring his own clay and tools, and woe betide the unlucky aspirant who is not informed. In each loge is a plaster cast of a piece of ornament, all exactly alike. Eight hours are allowed to reproduce it in clay. This day the tables have disappeared from the centre of the room, and in their place, at intervals, are piles of sawdust and pails of water. The water to wash the clay from the hands, and the sawdust to take the place of towels. The next day the examination in drawing from the antique completes the admissibles. For this, like the modeling, eight hours are allowed. The students are distributed in the various hemicycles and déjeuner is not a feature of the scéance. On the wall of the room I am in is a clock which strikes the quarters, and every time it strikes, a deep groan resounds from every throat, but otherwise there is no noise.

* A term of derision applied to Americans and English.

Great is the excitement at the posting of the names of those who have passed, and great is my joy to find mine among them. I am now permitted to take the examinations in mathematics and history, but as I know scarcely a word of French I present myself simply for the form, that being necessary in order that I may not have to undergo the admissibles next time. By the time the next examinations came around I had accumulated a limited store of bad French, and had time to brush up, indeed to polish my acquaintance with algebra, geometry, plain, solid, and descriptive, and to lay in a goodly store of history. Each of these examinations is both oral and written. Only one question in each subject is asked, and failure means half a year's wait. The first examination was in written history, and the question, as nearly as I can remember it, was as follows:

"It is proposed to erect a monument to the writers of the eighteenth century. Give a brief description of the design; the monument should be adorned with statues of authors and have upon it suitable inscriptions; what names should be so honored, and which should receive places of the greatest distinction. Give an account of the principal works of the various authors; also a short account of literature of this epoch."

The examination was held in the beautiful hemicycle of Paul Delaroche, and from my place of vantage on one of the upper tiers I could see a great deal of cribbing going on below. The first care of the guardian was to make a map of the room, showing the location of each pupil. This to aid the professor in the detection of frauds. If two papers are found to be suspiciously alike, he looks up the location of the men; if near each other he determines at the oral examination which one has cheated. Once detected in a fraud, that young man had better choose some other occupation in life than architecture, for he will find it extremely difficult, if not impossible, to ever enter the school.

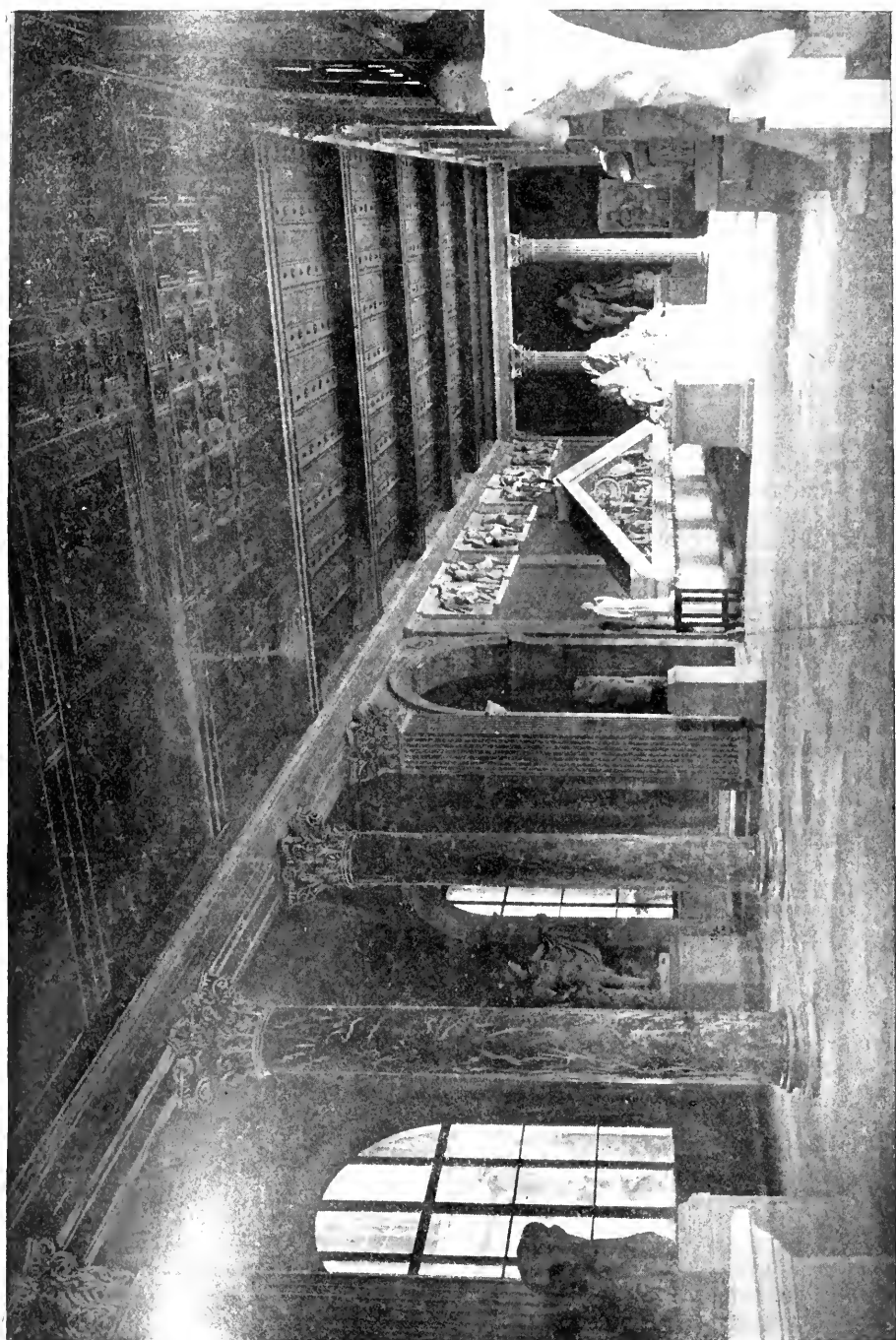
The oral examinations in history are held in the same place. A printed list of questions are furnished

upon application. They embrace about fifty epochs of history, art and literature. The subjects are chiefly classical and French. The United States is honored by two questions. The questions concerning the English relate exclusively to the driving of them out of France by Jeanne d'Arc and Duguesclin.

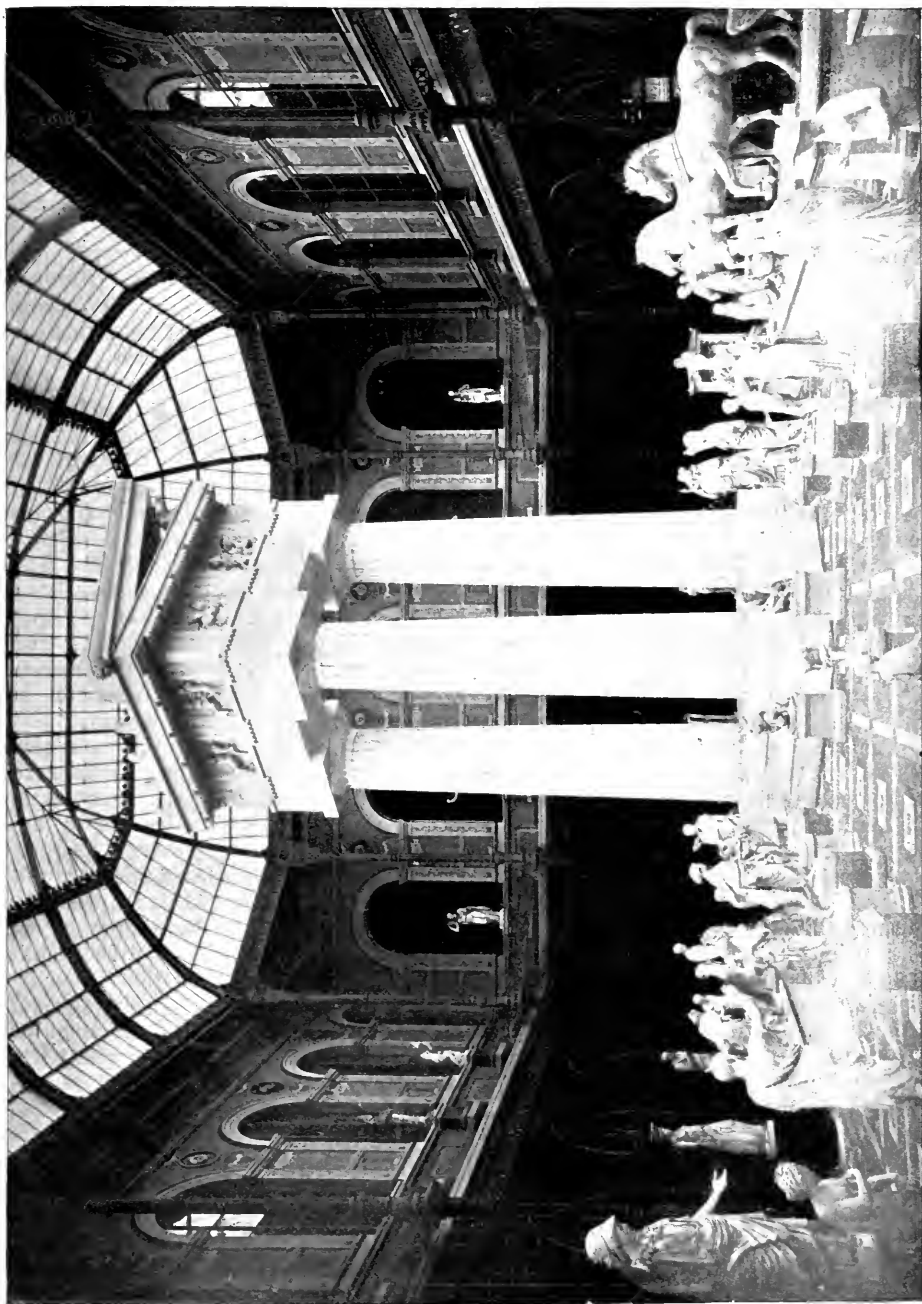
The professor of History conducts the oral examination in person; he is the only professor with whom the candidate for admission is brought in contact during the examinations, and the impression he produces is most agreeable. He sits in state on the rostrum. Before him on the table is his hat containing slips of paper, each with a number corresponding to a question. The student, when his name is called, advances to the table and draws a number from the hat. The professor opens it and tells him the subject he is to discourse upon. While I am waiting, a young man draws the American War of Independence. His ideas on the subject are somewhat misty. He knows of only two of its heroes, Washington and Franklin. The professor does not like his pronunciation of "Washington," and says those Americans over there, indicating myself and some of my compatriots, are laughing at him. He says you should try to get the true American pronunciation of the word, then repeats very distinctly for his edification *Vash-ish-ton*, with strong emphasis on the last syllable, and an almost imperceptible sound of the final *n*.

My turn comes and I draw literature of the time of Louis XIV. I soon get myself in trouble by making an odious comparison, having the hardihood to rank Molière below Shakespere as a playwright. Monsieur smiles, shrugs his shoulders and asks me if I am English. I answer American. He says perhaps it is natural for me to take that view, but he evidently pities my ignorance. However, Monsieur La Monier is a gentleman, a man of distinguished learning, and my beau ideal of a Frenchman.

The written examinations in descriptive geometry and other mathematics are conducted on the same plan. The students are not allowed to communicate. I hear several things which



VESTIBULE UNDER THE LIBRARY.



GLAZED COURT IN THE MAIN BUILDING.

sound strange to an American. One young man was told to move along, the inspector explaining that he might copy from his neighbor if he sat where he was. Another at the oral examination wished to show the "examineur" some problems in descriptive geometry which he had worked out. The examineur politely refused to look at them, saying some one else may have done them for you. At the written mathematical examination was an American newly arrived, who knew absolutely no French. The inspector remarked that he did not write as he read the programme, and asked him why. "Oui, oui," said the young man, this being his whole vocabulary. A moment later noticing that he still did not write, he asked if he understood French. "Oui, oui," he replied. Again he did not write, and the inspector said, "You do not write. Why do you say, 'Oui, oui,' whenever I speak to you?" My compatriot gravely replied, "Oui, oui, oui," amid shouts of laughter. It is slow work waiting one's turn at the orals. Monsieur Salisis, the official examineur, is an old sea captain, with a bald head, which he wrinkles when he is not pleased, and he is seldom pleased during the examinations, but he has an unlimited supply of patience; it cannot be denied, he gives the men every chance. A student is at the board hopelessly perplexed; the old man gets up, and says, "I will return in a few minutes; meantime you will have a chance to reflect." Hardly is the door closed, when at least fifty of those present begin to give advice to the bewildered victim at the board, and tell him how to do the problem. The examineur returns, and the poor fellow is more at sea than ever. "*Je vous remerci*," politely says monsieur, as he writes zero opposite your name.

It is now half-past six of a Saturday afternoon. I have been sitting all day on a wooden bench with no back. The French Government does not pamper the pupils at the National school with luxuries. Monsieur Salisis shuts up his note book and announces that the examinations will be resumed at seven o'clock to-morrow (Sunday) morning,

and I realize that I am in a foreign land.

Finally the F's are reached. I momentarily expect to be called. The last man has failed, and the following one will be asked to do the same problem. That is a habit of Monsieur, and I am anxious for the chance. No, it is Monsieur Flacet. "Do you present yourself seriously," asks the examineur. "This is the seventh time, and I don't believe you know any more now than you did the last time. *Prenez un point, et un plan. Trouvez la distance entre ce point et le plan.*" This Monsieur is quickly thanked. Evidently he is not worth wasting much time upon, and my turn comes. I am told that I write very poor French, and I am asked where I came from. I say "America." "*Amerique du nord ou Amerique du sud?*" asks Monsieur. I reply, my dignity somewhat injured, "*Les Etats Unis.*" "*Bien*," he says, and adds: "If I had been in America as long as you have been in France I could have spoken English a great deal better than you speak French." But as he has no means of knowing how long I have been in France, I mentally do not assent.

At each of these examinations a certain mark is given, ranging from zero to twenty. Then the mark received in each subject is multiplied by a coefficient supposed to represent its relative importance, thus the mark in Architectural Composition is multiplied by 12; drawing by 2; modeling by 2; mathematics by 5; descriptive geometry by 5, and history by 1.

Failure to pass in a single subject debars the candidate. The names of those who are received are posted in the order of merit, ascertained as described, and here at the threshold begins the system of competition which pervades every branch of instruction at the school, a system which puts the men on their mettle, and produces the most extraordinary results, both as regards quality and the amount of work accomplished.

Having successfully passed the examination, notwithstanding my bad French, I find my name posted along with twenty-nine others, all that remain of the army of nearly three hundred.

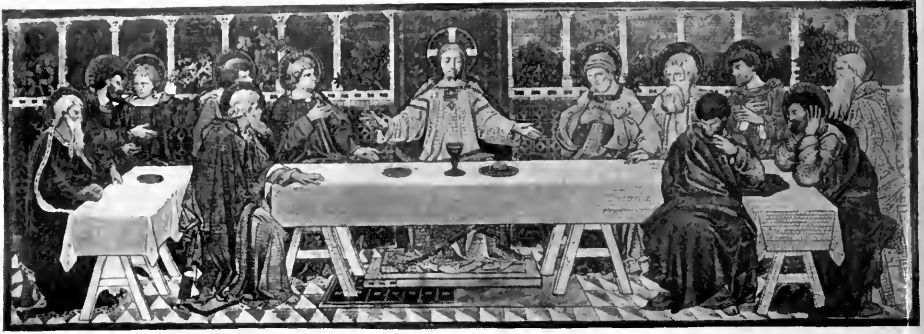
Once having gained admission the student is allowed an extraordinary degree of liberty. He may stay in the school until thirty years of age, provided he accomplishes work each year which may easily be done in one or two months. He may choose his own professor in architecture, and may work or not as he feels disposed. To keep his name on the rolls he is compelled only to visit the school twice in the year. His advancement is solely by the honors, or values as they are called, which he obtains. The school is divided into two classes, first and second, the latter being the lower. When a

student has obtained the required number of honorable mentions, or values, he is admitted without further ceremony to the first class. When he receives the proper number there he is allowed to choose a final programme of his own making for a building, after which he receives his diploma from the Government and becomes a full-fledged architect. If a young man is bright, he may expect to reach this goal in from eight to ten years after entry, but a large proportion fall out before the course is ended. Thus far no American has ever finished the course, though several have reached the first class.

Ernest Flagg.

(TO BE CONTINUED.)

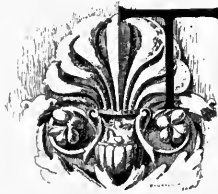




A reproduction from a full-size cartoon for "The Last Supper," to be executed in mosaic.

MODERN MOSAICS.*

Part II.



THE sixteenth century saw a crowd of busy workers in St. Mark's at Venice. The ancient mosaics of the Cathedral had begun to fall into disrepair already at the beginning of the fifteenth century. They had suffered severely in the fires of 1419 and 1429, and were besides by no means to the taste of the Renaissance, which looked on the works of the *trecentisti* and *quattrocentisti* as little short of barbarous. For the great painters who made their home at Venice (Titian, Tintoretto, and a host of other famous men) naturally judged mosaics from the point of view of their own art, not from that of architectural fitness. They aimed at painting in enamel, and considered that the culminating point of glory had been attained when a critic could say of the work that "really one could not have done better with the brush; that from afar the mosaics seemed painted in oils." So dear to their hearts was praise of this sort, indeed, that Francesco and Valerio Zuccati engaged on the great arch before the first of the domes of St. Mark's ventured to introduce a little brushwork to heighten the effect of the

mosaic. They were accused of the subterfuge in 1563 by their jealous rivals, Vincenzo Bianchini, Domenico Bianchini and Bozza, and their work was submitted to the examination of a most illustrious tribunal of painters. Titian, Paul Veronese, Medula, called the Schiavone, and Jacopo Pistoia, met to inspect the offending productions. They recognized the traces of the brush on various parts of the mosaics, but asserted that the painting was altogether a work of supererogation, the color of the mosaic beneath it being such as to produce *da per se* the effect desired. The Zuccati were nevertheless obliged, probably through the machinations of their rivals, to take down the painted parts and put them up again at their own expense. Sharp indeed was the rivalry, and bitter the jealousies among those Venetian mosaic-workers. The Senate, bent on urging them to the fullest exercise of their powers, exerted itself to the utmost to encourage the competition. In 1517 it placed two angels by Mario Luciano and Vincenzo Bianchini, at the entrance of the cathedral that all men might judge their relative merits. In 1563 it asked the before-named famous commission of experts to classify the mosaicists in order of merit, and later on gave the figure of St. Jerome as a

* See No. 3, Vol. 11., ARCHITECTURAL RECORD.



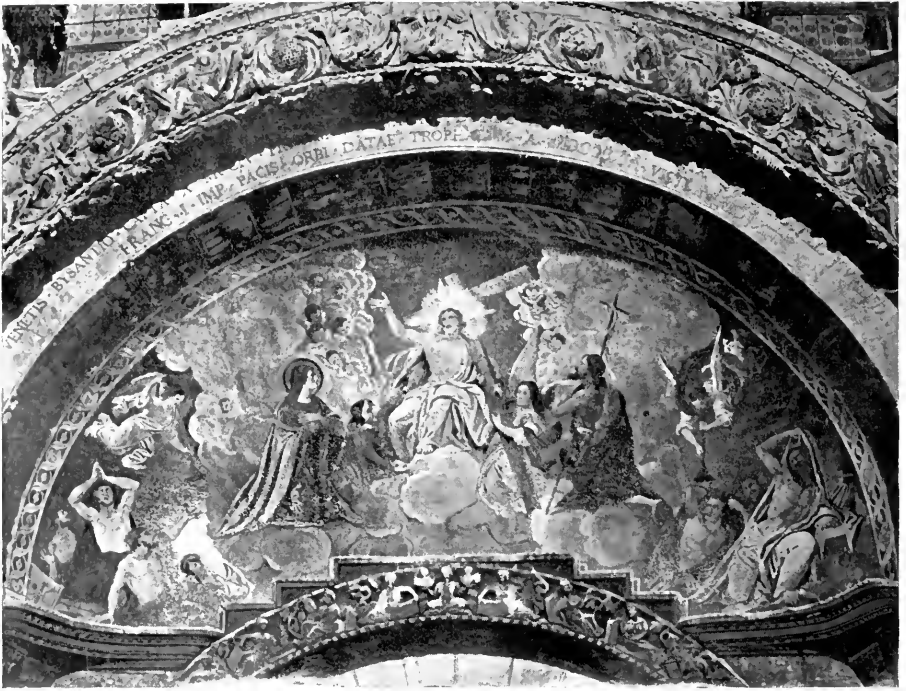
THE MAIN ENTRANCE, ST. MARK'S CATHEDRAL, VENICE.

Mosaic of St. Mark, from designs by Titian (1545), executed in mosaic by the Zuccati Brothers.

subject to be treated in competition by all who cared to enter their names. The judges were men of fame: Paul Veronese, Tintoretto and Sansovino. The work of Francesco Zuccati was judged the best; then that of Gian Antonio Bianchini, of Bozza and of Domenico Bianchini. Francesco Zuccati was himself a painter, son of Titian's master, and brought up in his father's studio, and it was but natural that, at a time when mosaic had become the dependent of painting, a painter should be the most distinguished mosaicist. Or is it not in fact a misnomer to apply the name mosaicist, in the original sense of the word, from this time onward? For we have to deal not with originators now, but with copyists. Even painters, considered in the light of mosaicists, were not original; they thought in painting, and did but translate into mosaics; while those who were not painters copied straight out in Venice the works

of great authors composed for that special end; in later times (at Rome) works which had no relation whatever with the art the worker professed. Beautiful indeed are the copies which the first workers in this second stage of mosaic art produced; but they were the initiators of a second decadence from which we are but now beginning to emerge.

While Titian was occupied with mosaics in Venice, Raphael had something to do with them in Rome. Agostino Chigi "il Magnifico," called upon him for the plan of the Chigi chapel in the church of S. Maria del Popolo, and for the model of mosaics with which to decorate the cupolo. Raphael represented the creation of the world after the Ptolemaic and Aristotelian theory, before the planets have begun their revolutions. The work is divided into eight compartments around a central medallion, which shows the Creator with lifted hands. The planets, under



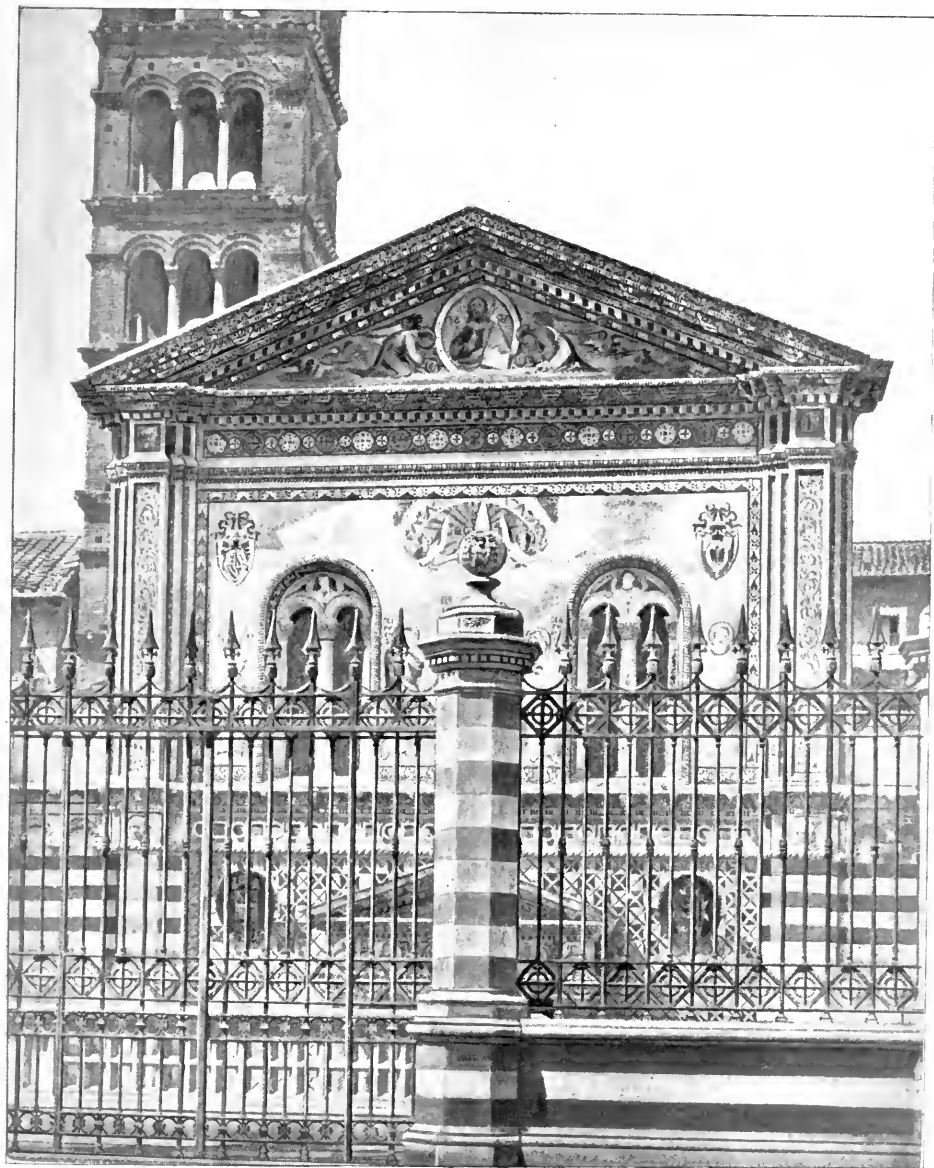
"THE LAST JUDGMENT."

Executed in mosaic on the facade of the Cathedral of St. Mark, Venice (1856), after the original painting by Latanzio, Querana.

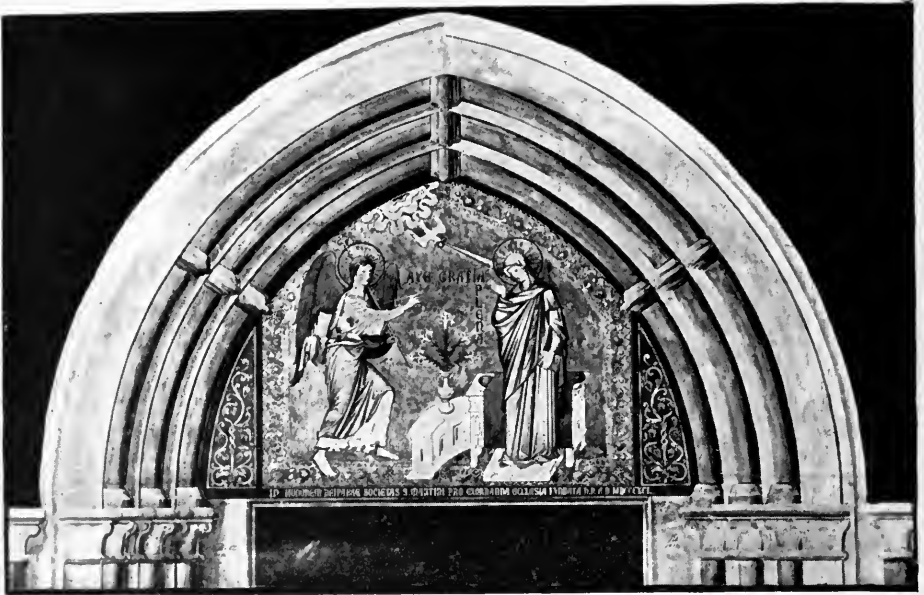
the mythological forms of Jupiter, Saturn, Diana, Mercury, Venus, Apollo and Mars, appear to be conducted by winged angels which await a sign from the Creator. The eighth compartment is reserved for the fixed stars, scattered over a sphere on which stand the words: *Fiant Luminaria in Firmamento Coeli*. Raphael had the advantage of an excellent translator in Luigi di Pace, a Venetian whom Chigi il Magnifico called expressly from Venice, then, as now, the headquarters of mosaic art.

Meanwhile there was growing up at Rome the institution which was to do, perhaps, even more than the work at St. Mark's, to fix the new conception of mosaics as a dependent art. Muziano di Brescia, Marcello Provenzale di Cento, G. Calendra, Fabio Cristofari and Gessi were successively directors of the bands of mosaicists called from the various studios of Rome and Venice to co-operate in the work of decorating St. Peter's. In 1727, under Pietro

Paolo Cristofari (son of Fabio Cristofari), these bands of mosaicists were definitely united in a permanent work shop, which still exists as the Papa Factory of Mosaics. The manufacture of colors for which this factory is famous at the present day began from its very birth. Mattioli, Pietro Paolo Cristofari's colleague, and head of the workshop, pressed by the necessity of supplying an immense variety of enamels, invented new recipes, especially that of a remarkably fine purple which bears his name. This making of new colors was fostered by the action of Pope Urban VIII. (1623 to 1644) who conceived the idea of causing the frescoes and oil-paintings of the cathedral to be rendered durable by crystallization into mosaic. The copying of such pictures, composed without any reference whatever to mosaic, naturally rendered imperative a large assortment of colors, and so well has the ingenuity of the Roman mosaic workers known



CHURCH OF STA. PUDENTIANA, ROME.
Showing facade in mosaic.



A COLORED DESIGN FOR MOSAIC IN THE BYZANTINE STYLE.

how to respond to the demand, that the Papal factory has at the present time as many as twenty-five thousand shades at its disposition. The technique of the art has thus, of course, immensely improved since the days of the workers at Sta. Pudentiana and at Ravenna; many will think, however, that the mosaicists of those times understood their art intrinsically better than the men who copied in all the glory of its original coloring, say, Raphael's "Transfiguration," enlarging it to four times its original size. St. Peter's at Rome, like St. Mark's at Venice, is too full of detail to allow of description here. The few accompanying engravings of some of the mosaics show the best work produced in this second period of mosaic art.

Increased nicety in the manipulation of mosaics led to the execution of those *tours-de-force*, which now rise immediately to the mind when the word mosaic is pronounced. Portraits, pictures, ornaments of all kinds began to multiply rapidly. Provenzale di Cento himself, Muziano di Brescia's successor, was among the first to work in this direction, executing in mosaic the portrait of Pope Paul V., now to be seen in the gallery of

the Villa Borghese. He is said to have employed 100,000 pieces of enamel in this work of patience. Portable mosaics quickly became the fashion and contributed much to the degradation of the art. Not that such mosaics had been altogether unknown in old times. The Byzantine mosaicists of the tenth and eleventh centuries made many little pictures of the kind, which were much admired and treasured. They generally represented sacred scenes and were placed in the treasuries of churches to be shown to the devout on high days and holidays; or they stood by the bedside of wealthy lords and ladies, to remind them of their devotions. Two charming mosaic pictures of this description are to be seen at the Museum of the Cathedral in Florence, representing six of the principal scenes from the life of our Lord. The fineness of the work would be difficult to surpass even in these later days, while the subdued harmony of the coloring render them most attractive from an artistic point of view. They probably date from the tenth century. Such work as this, however, was a mere accessory to mosaic art, not the principal aim which, under the form of brooches

and other ornaments, it seems recently to have become.

The early part of the nineteenth century shows little mosaic work on an important scale. We must not omit to mention, however, the decorations of the New Opéra House and more recently those of the Panthéon, in Paris; where there now exists a National School of Mosaics, receiving an annual grant of 25,000 francs (5,000 dollars). The mosaics of the Panthéon are especially fine, approaching those of Ravenna according to the judgment of a French artist, in sobriety and calm of coloring, grandeur of conception, correctness of design, and inherent sense of architectural fitness. Christ, with the sealed book of the Future in his hand, is in the centre of the apse, while Joan of Arc kneels at his right and St. Geneviève at his left. The two maidens are being presented respectively to the Saviour by the Virgin and the Angel of France.

The mosaics of the Panthéon are but one example of a widespread revival of the art which has been manifesting itself in recent time in all parts of Europe, and which has its renaissance properly in that home of time-honored traditions, Venice.

Venice has in its part been renowned not only for its mosaics, splendid in colors and gold, but also for its won-

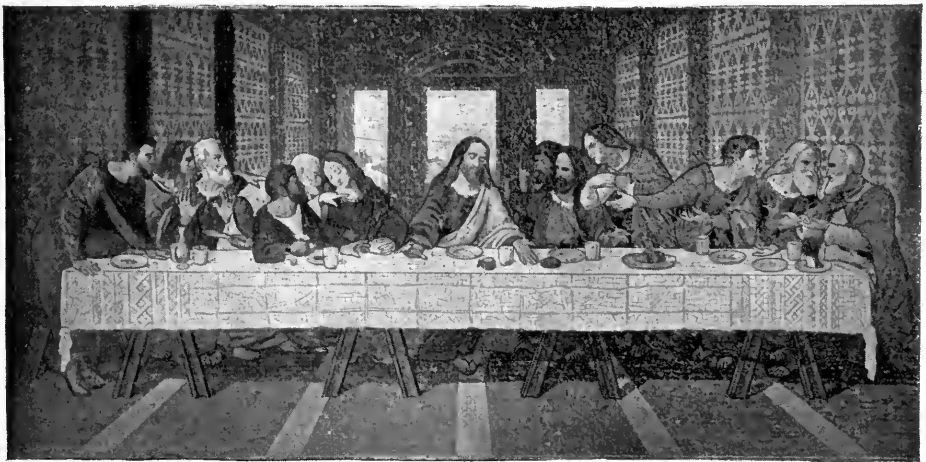
derful old Venetian glass. This in itself would be sufficient for a lengthy and interesting article.

In the modern renaissance mosaic has been executed and erected in many parts of the world, some of the most important cathedrals, churches and public buildings being decorated in this most beautiful of all materials for permanent color work. St. Paul's Cathedral and Westminster Abbey, London, are cases in point.

The best work done in Venice to-day is that done not by the trade so-called but by a small group of artists who have banded themselves together in the interest of the art of mosaic, and who either from their original designs or from the paintings of other artists, are executing successfully many commissions of important character.

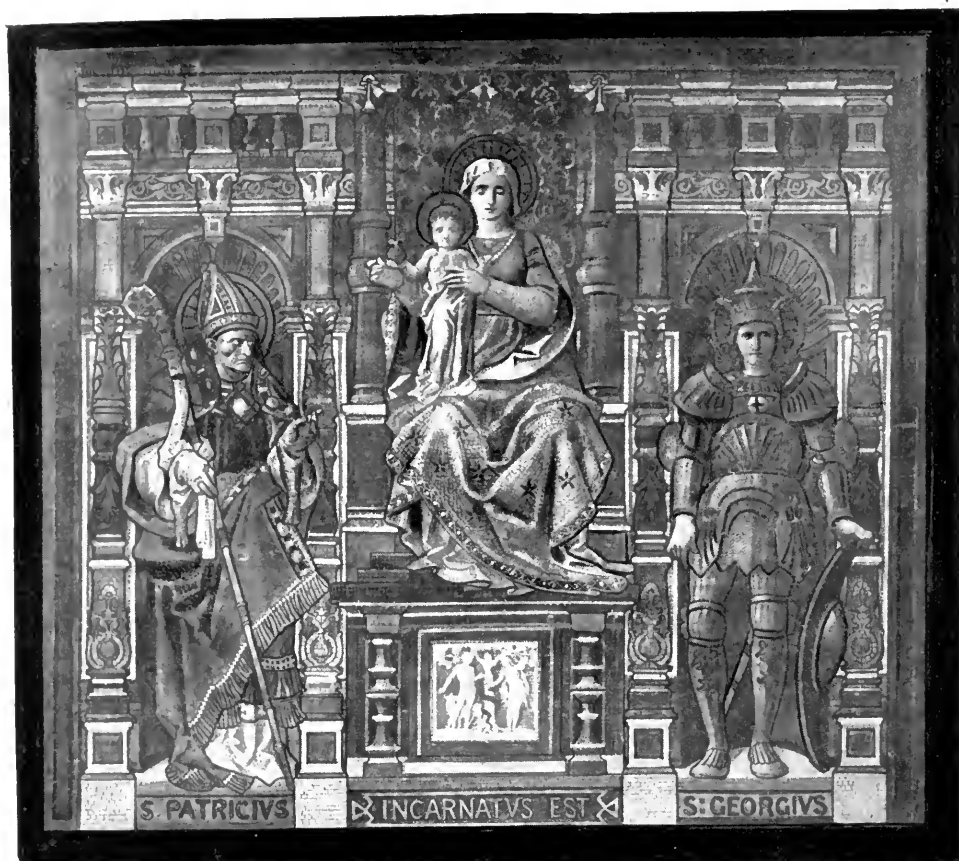
Probably the work recently completed for the new facade of the cathedral at Florence from paintings by the late Italian artist, Barbino, will take precedence as the most important commission as yet executed in modern Italy, while the work on the monument of Pio IX. at Rome and the mosaic decorations in the new Cathedral of Notre Dame de la Garde in Marseilles are both important monumental works which will worthily rank with the best of modern times.

The art of mosaic is one of apparent



"THE LAST SUPPER."

Modern Italian mosaic reproduction of Leonardo da Vinci.



A MODERN MOSAIC FOR A REREDOS.

simplicity, but must, like all other arts, rely for its quality upon the individual feeling and ability of the artist himself.

In the accompanying illustration of a corner of a practical studio the progress of the work can be seen. The original large size color cartoons showing upon the wall, the work in progress in place on the benches, while the mosaic frit is held in small trays beside the tables. Mosaic frit, the base of all mosaic pictures, is a composition of glassy character, and in manufacture is subject to intense heat. Under the influence of various oxidising reagents this glass becomes a compact brilliant paste of every shade of color, durable enough to resist, unaltered, the most wearing atmospheric influences. The liquid glass is poured into round biscuit-like forms which have a diameter

of 20 centimetres, and a thickness of one, and allowed to harden. When required for use these glass biscuits are cut into the familiar cubes by means of a hammer with a cutting edge, and placed according to their shade of color in shallow cups destined for this purpose. They are then taken up, as required, in pincers and placed in the cement according to the design which is being filled in. The famous gold and silver backgrounds are not, however, made in this way. On a ground of thick glass is laid a leaf of gold or silver; then a film of the purest glass is spread over it, and all is subjected to the action of fire. The various layers are thus fixed in one solid body (the gold or silver being buried between the two strata of glass), and can be cut with the hammer like ordinary glass enamel.

When the mosaic can be made at once *in situ*, the wall to be covered is prepared with a special cement, in which the cubes are placed; but it often happens, owing to the distance, that the whole piece has to be executed in the atelier, and then carried to the site to be decorated. Under these conditions the best method employed is known as *mosaico a rivoltatura*. The workman has before him a tray, with movable sides, of wood or slate. This he covers with a sheet of plaster, on which he copies the design to be executed. The cubes of enamel and gold are placed in the plaster according to the drawing, and when the work is finished their faces are covered with a paste made of rye-flour. The rye-flour paste is covered with a great sheet of paper divided into

portions according to the size of the parts to be successively taken off; and over the paper again is gummed a coarse cloth. The whole is now put aside to dry, and when it is thoroughly firm, the sides of the box are let down, the cloth is cut, and the paper, with the cubes attached to it below, raised out of the plaster bed. The pieces are naturally turned over as they are raised, hence the term *mosaico a rivoltatura*. They are then placed, in due order, on the wall, which has been prepared with cement to receive them. The surface is rendered even by the strokes of some flat instrument, the coating of paste, paper and cloth is removed, and the mosaic stands revealed. The cement has, however, probably been pressed up between the cubes of color by the weight



FROM A PHOTOGRAPH OF THE "ECCE HOMO," FROM MOSAIC BEFORE SETTING.



A Reproduction, showing the comparison between the colored design and the finished mosaic.
Design by Henry Albert Johnson.

of the cubes themselves. In this case the mosaic is washed while still fresh with a colored water, which harmonizes the cement with the colors of the cubes. This washing is a remedy by no means strong enough, however, when pictures are to be copied or portable mosaics made. In this case a heated mixture is made of white wax and earth of various colors, and this mixture is applied by means of hot irons to the cement that has to take on the exact tint of the surrounding mosaic.

One word must still be said on a comparatively recent development of the ancient art of lithostratnm. A visit to

the municipal factory, or to the work shop of Signor Merlini in the Via de Fossi at Florence shows the eminently artistic resources of the Florentine mosaic in *pietre dure*. The pallet of the worker in this branch of the art resembles a geologist's cabinet, consisting as it does of stones of all descriptions, veined and stained in every possible manner. Like the poet, the artist must be "skillful to select materials for his plan," choosing from all the vast stores of stones around him, exactly that shade, or spot, or that streak which will best serve the end he has in view. Incredible, to one who has not examined



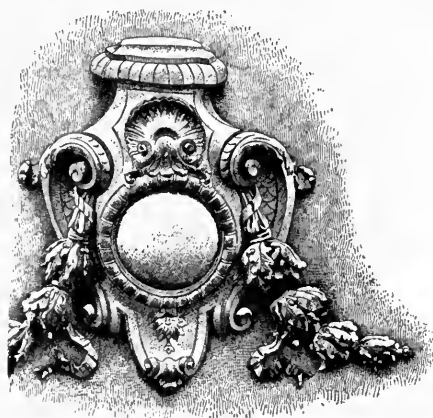
CORNER OF AN ARTIST-MOSAICIST'S STUDIO.

the work, is the exquisite softness of the shading to be obtained with some of the translucent jaspers. The shadowed concavities at the bases of flower petals, the delicate orbing of grapes, the veins of leaves and petals, the varied tints on grass and trees—nothing is beyond the power of artists who work thus from Nature's own pallet. As an example of the application of this kind of mosaic to purposes of decoration, we may cite the famous arms of various Tuscan cities which ornament the walls of the Medici Chapel in Florence. In these not only are the most delicately tinted stones must happily used, but strips of mother-of-pearl are introduced to give further light to the whole. In work of this kind the various parts of the design, cut from the stone by a wire covered continually with wet emery powder, are attached by means of strong mastic to a piece of hard slate also cut according to the design; all the parts are then united at the back by a slab of slate and placed in the setting (generally of black marble) destined to receive them.

The Florentine municipal factory is unfortunately dying for want of work.

Of a truth we feel inclined to echo, with regard to this branch of the art as with regard to mosaic proper, the words of Titian: "It is deplorable that mosaic, an art as valuable for its beauty as for the durability of its materials, be not more cultivated by artists and encouraged by princes." Where frescoes have vanished mosaics have lasted, eloquent voices reaching us across the centuries to give us the history of the tastes and aspirations of a past world. What paintings have come to us from Pompeii for instance? Whereas the mosaics, seen still *in situ* or in the museum at Naples, are as fresh as though they had been executed yesterday. There are signs, however, that interest in mosaic is reviving; and that, to the original conception of the aims and functions of the art, is to be added at last that technical skill which has been gradually acquired from the sixteenth century onward. If this is really the case, the end of the nineteenth century will, it may be hoped, produce mosaics such as the world has not yet seen, and put an emphatic seal to Ghirlandaio's words that "*La vera pittura per l'Eternità è il mosaico.*"

Isabella Debarbieri.



RAYMOND LEE.

CHAPTER XVI.

THE NEW PATH.

Not until our two friends landed in New York and found themselves in the midst of conditions more permanent than those prevailing on shipboard, where, as Lee said, all the circumstances of daily existence were stamped like a railroad ticket, "good for only six days," did they really begin to press foot upon the new road they had entered. The voyage had been, in a sense, an intermediate stage—part of the process of departure—between the old life and the new. How, at times, the mind and the feelings play the procrastinator to the utmost moment, and recognize the inevitable evil only when it is actually at hand! Neither Lee nor Winter fully realized how greatly altered was the condition of their lives, how far and how irretaceably they had departed from the old existence in Eastchester, until quitting the steamer at the North River pier they found themselves amid the clamant bustle of the great city. How inhospitable the streets and buildings! How preoccupied and hostile the hurrying crowd! No recognition for the stranger anywhere! Obviously, here, as in a swift stream, existence must be held with strain and struggle. A passive attitude is impossible without sinking.

Lee at once felt himself confronted with the question: What position am I to take in this activity; and then the problem followed: How to enter it; for the sensation of being quite outside the bustle he was witnessing was stronger than any other sensation he received from his first impressions of the Western metropolis. Not until that moment did

he feel the pang of loneliness or appreciate how many quivering nerves there are in assurgent Memory. The result was dejection, spiritual surrender; but it must be added, the hopeless renunciation of any great possibilities for himself, which had followed the discovery of his father's fate and his own acceptance of the idea that his parent's crime or misfortune—which was it? Raymond frequently wondered—was continued in him, saved him from the poignant sense of defeat which afflicted Winter.

For the latter, who was no stranger to New York, the busy streets, by invoking old associations of a time previous to his departure for Europe and by thrusting upon him a sense of return and repulse brutally reminded him of how completely he was removed from the Eastchester life, its tender sentiments and delightful hopes.

"Another chapter closed," was Ralph's bitter thought.

He asked himself whether his life would always be as hitherto, an affair of little episodes unconnected as the plays that succeed one another on the boards of a theatre. True, he was the hero—the "impressional centre point," to use Heine's phrase—of each piece, but on every occasion as the curtain fell he had to resume his actual self again outside of his heroisms, afflicted with a deeper sense than ever of impotence and defeat.

As Ralph proceeded from the pier to the hotel his mood was not one that harmonized with the aspect of life presented to him on the way.

"I think this is the vulgarest hole on God's footstool," he cried, in disgust.

"It doesn't impress a stranger so," said Raymond, quietly.

"This place," continued Ralph, "always suggests to me that the drummer—or, as you call him, the commercial traveler—and the advertising agent have succeeded in realizing their natures in affluence—building and spawning, perfectly assured that civilization is in the main an affair of big hotels, plenty of ready-made clothing and newspapers."

The uncalled-for vehemence of Winter's denunciation set Raymond laughing.

"Who has hit you, Ralph?"

"Hit me?"

"What has aroused your vindictiveness with so sudden a leap?"

"Oh, the very sight of the assured, militant, vulgar, commonplaceness of this city always acts on me as an acid."

"Is there nothing but vulgarity in all this?" asked Raymond.

"Nothing," replied Ralph, doggedly. "So far as I can see," he added.

"Which is really all the qualification your statement needs, old fellow. Ralph, have I to take you in hand again? You are falling from grace. These old moods of yours are wrong. Hush, I must lecture you. Your over-nice discontent is becoming a very gross habit. Don't deceive yourself into believing that it's a high personal quality. When I hear you fulminating in your present style, I can't help recalling the voice of a countryman of yours, who surely was no Philistine. Well, I can't remember the exact words, but the sense is that men who live much in fancy are like drunkards whose hands are too soft and tremulous for successful labor. They need to respect the present hour, for everything good is on the highway. That's only a loose paraphrase of the idea, you know, which is very applicable to you. You'll think ever so much better of the world when you buckle down to work as it does. The trouble is, you're indolent and you regard your discontent as a mark of superiority."

Raymond had not measured the force of his words. They struck Ralph like a blow, wresting his thoughts and sensations from his present position and sending them whirling back upon himself. "Like drunkards whose hands are too soft and tremulous for successful labor." The sentence acted like fire. With remarkable potency, due, perhaps, to the fact that the judgment was delivered by a friend and irresistibly accepted by his own conscience, it burned away in an instant Ralph's last illusion: that in which he had covered his own personality—the belief that he was naturally a very superior person.

The altered expression of Ralph's face surprised Raymond.

"I haven't offended you, old man, have I?" he asked, diffidently.

"No. No," replied Ralph, vacantly, in a sad tone. "Oh, no. Ah, here's Broadway; so noisy, it's hard to make oneself heard."

The busy crowd seemed to have caught the refrain of Raymond's censure: "Like drunkards whose hands are too soft for successful labor."

During the evening, at the hotel, Lee made many attempts to draw his friend from the restrained and strangely quiet mood into which he had fallen, but the efforts were unsuccessful. Even the following morning, Ralph had not recovered himself. His usual mental boisterousness and emphatic expression had given place to a forced calm and constrained speech. When talking at breakfast, of plans for the day, he asked, in a resigned tone:

"Well, Raymond, which is it to be: Moyle or Pittsburgh?"

"Why put it that way, Ralph? you know there is not that choice for me."

"It's Moyle then? Eh?"

"Yes, it's Moyle," replied Raymond, annoyed.

"Very well," said Ralph, indifferently. "I'll show you the way to the *View* office and abide the result of your interview. Then I'll make my way home to Pittsburgh."

"That doesn't sound very enthusiastic," said Lee, smiling.

"Doesn't it?"

"Tell me, old man, what is the matter?"

"Matter? Nothing at all, Ray. Why, what should be the matter with me?"

Lee shrugged his shoulders. Clearly, it was best to leave Ralph to extricate himself from his present mood.

At the time we are speaking of, the offices of the *View* were not suggestive of the immense power and importance of that potent "organ of civilization"—the "greatest literary force in the World," as occasionally it reluctantly informed its readers with the modesty of double-leaded type. Everybody knows there are some matters about

which a judicious publisher has to keep his readers informed, substantiating his solemn assurances by affidavits and other tokens of the delightful confidence of the public and his consciousness of his own veracity.

It is true, the approach to the sanctuary of civilization and the greatest circulation in the world was somewhat chilling to the spirit. It was dirty. The entrance was blocked by a score of ragged little ruffians—like vermin fed on printer's ink—yelling in strident or raucous voices. The grimy office inside, where the atmosphere smelt sour, was filled with slovenly clerks behind dirty glass partitions and with seedy groups of men perusing the publicly-displayed advertisement sheets. Chilling as these externals were, however, there could be no doubt of the intellectual activity housed within the building, or of the intensity of its relationship to civilization. Moyle once said, in an address which he delivered to the Congress of Young Men's Christian Associations, that the newspaper was the centre of Humanity, as the Delphic oracle was the centre of Greece. Moyle knew that a casual reference to Greece was for the public the equivalent of a classical education. Proof of the justness of the comparison fairly blossomed in many colors on the *View's* bulletin boards, which Lee lingered for a moment with the gaping crowd to decipher:

TAMMANY MAKES THEM EAT CROW.

STUCKEY'S DAGGER DID IT.

PRETTY MISS FLOPS SUES FOR HER BANGS.

CAUDLE SIGNED BY THE GIANTS.

MUCH-MARRIED TOMLINSON COMES TO GRIEF WITH THE
WIDOW.

GERMANY'S CHANCELLOR IS ANGRY AT THE "VIEW'S" EXPOSE.

THE MAYOR SAYS "NO."

PARSON PLUM'S EXIT WITH THE CONTRALTO.

THREE WEEKS IN A CANCER HOSPITAL—DOTTY WEN SHOWS
THE PRACTICE ISN'T ALL PROFESSIONAL.

ACTRESSES' UNDERCLOTHES AS DEPICTED BY A "VIEW'S"
ARTIST.

Raymond hurried through the office into the dirty elevator which was filled with a motly crowd bound as he was for the top story. He had barely entered the car when the elevator boy, whom one of the passengers addressed as "Smarty," suddenly banged the door because he spied two other individuals making for his conveyance, which he sent upward.

"Got the laugh on those fellows this time," he said.

"Who were they?" asked a youth with night pallor in his face.

"Spider and the Cholera Case. Say, is it true he's (meaning the latter of the two forsaken ones) going to free-lunch on germs in the hospital? Out."

The top floor was reached and there was no time for the pale-faced youth to impart to "Smarty" what he knew of the latest enterprise in "disease journalism" which the enterprising *View* was about to make in order to solve, as the editorial announcement had it, "problems which had balked the medical science of two continents."

The "Cholera Case," an anemic house-painter, who had been hired for a trifling compensation to wallow in disease for a day or two and describe his sensations in the interest of "medical science," was making his last visit to headquarters for final instructions.

Lee followed his fellow-passengers from the elevator into a large untidy room, where they dispersed, being privileged to pass the low iron railing which debarred him from intruding upon the ink-besmattered desks which stood in the space between the railing and the number of little compartments like bathing boxes which lined the window side of the room and shut off from the interior all light but the little that was diffused over the top of the compartments (which were not partitioned upward to the ceiling). To this scant illumination was added what cannot be described otherwise than as a foggy light which penetrated with effort a dirty ground-glass window that opened, in the rear of the room, upon an interior court—that consumptive substitute for direct daylight. Indeed, the general appearance of the room was sickly and sour. The floor, free of any covering, was grimy and worn; the unpapered walls,

stained in many places, were visibly coated with dust. The only brightness was the yellow gas-light which, shrouded with green-tinned reflectors, burnt above a few of the inky desks. Partly within one of these illuminated spots and partly eclipsed in the dusk without sat, tilted back in his chair with arms placed wing-fashion behind his head, a seedy-looking middle-aged man with watery, red eyes and long matted beard. He was surrounded with a litter of newspapers which, heaped on the floor, half buried the legs of his chair. He was listening attentively to a jaunty individual who sat upon the desk before him with a tall hat placed as far back upon the rear of his head as possible. His eyes were fixed upon his feet extended in front of him, and as he spoke he drummed upon his boots with the cane he carried.

"Mind you," Lee heard him say, "eight different women identified the stiff as the body of somebody missing in their own families. I got hold of four of the women, and by extending to them my deepest sympathies obtained a full view of the skeletons in *their* closets, which will make a good story next Sunday, I tell yer. Bet yer those weeping dames 'l be surprised when they read it served up with that sauce piquant for which, mind you, Munsey, this is said without the slightest vanity, only yours truly holds the recipe."

"You're a dandy!" exclaimed Munsey, his admiration evidently springing from the entire tale which his companion had recounted, but of which Lee had caught only the conclusion.

At this moment a young man with a smooth, fat, boyish face hurried out of the adjacent room.

"Where are you off to, Chubbs?" cried he of the tall hat. "Wait a second, I know you were on the point of suggesting *it*, and I don't mind if I do. I'll go with you."

Neither the question nor the proffered company halted the young man, who continued his way to the elevator, merely waving his hand hastily in token of recognition. His passage through the room attracted the attention of the bearded gentleman who had been addressed as "Munsey" to where Lee was standing awaiting the approach of

some one to put him in communication with Mr. Balder—the City Editor.

The tilted chair was suddenly brought to its four legs, and Munsey cried—

“Fleck !”

The individual thus summoned was seated at a desk with his back turned to Raymond. He was engaged in tearing the wrappers from a vast pile of newspapers. Apparently, the use of his name had a habitual signification, for, paying no heed to Munsey, he turned instantly to where Raymond was and, seeing him, began to arise, an operation which required time and was worked chiefly with the arms. Not that Fleck was either ancient or infirm. He was not over 30, but having been for many years the guardian of the approach to the Sanctum his surroundings had impressed themselves upon his habits and manner. He was dirty and slovenly, with an outward air of hostile vulgarity. He wore a shiny black alpaca coat, which extended scarcely below his waist and added nothing to his diminutive stature. He moved with a shuffling gait, as though his feet were in slippers.

“We-al?” he drawled, saluting Raymond as he approached him.

Lee inquired whether he could see Mr. Balder.

“Does he know yer?” Fleck jerked out, after cogitating a moment over Raymond’s name.

“No. I come here by appointment made with Mr Moyle.”

“Oh, you want to see Mr. Moyle?”

“No, no ; Mr. Balder.”

“Well—I’ll—see.”

Fleck slouched off into the inner room whence the young man had emerged a moment or two before. Raymond waited many minutes before any word from Balder reached him. To pass the time he interested himself in his queer surroundings. One of the little cupboards in front of him opened and a huge bushy-haired man, wearing big, gold spectacles, came out with several sheets of manuscript in his hand. He passed into another of the little boxes, whence issued, after a few moments, the noise of much hilarity. Moyle appeared for a moment in his shirt sleeves

puffing an immense cigar, but, though he looked Raymond straight in the face, he paid not the slightest attention to the latter's salute. The color came to Lee's cheek, and he began to wonder whether Ralph hadn't made some mistake about the appointment with Balder. He was on the point of telling Munsey that he would call again, the City Editor apparently being busy; but as he was about to speak a diminutive messenger boy, arrived with a telegram, and peremptorily pushing his book under Munsey's nose told him to "sign it." Then he began to whistle and "squared off" to box another urchin who happened to enter at the moment with "proofs" from the composing room.

Before Raymond could beat a retreat Fleck returned, holding leisurely conversation with a stout, bald-headed man who seemed to be pushing the greater part of himself before him with the gait of a fat turkey. The latter spoke energetically and sententiously.

"You're safe, Fleck; stick to it. Don't mind what they tell you. I tell you Buts can't do it. The Englishman will be beaten before he puts the gloves on. Mark me, he won't last four rounds. We beat 'em at every game they know. You can put your money on the U. S. every time and go to sleep over it."

"You're right," said Fleck, in a tone that asserted fellowship and implied that he himself had long ago reached the same indisputable conclusion.

With a nod of the head the fat man sailed away, then Fleck turned to Lee.

Still at some distance from the latter, he beckoned to him.

"Hi! This way."

Thus summoned, Raymond was conducted to the adjoining room. It was filled with a score or more of little desks, suggestive of school. Half inclosed in a small alcove, occupying one of the corners, sat the City Editor. He was busy at the morning "assignments," and when Lee approached scarcely glanced from the book in which he was making sundry entries. He pointed, hastily, with his pen to a vacant desk.

"Take a seat there. I'll attend to you in a minute."

Raymond did as he was bidden, meeting for a moment, as he walked to the desk, the inquisitive stare of about a dozen faces. It was a Falstaffian crowd, but its raggedness was of the intellect. There were one or two faces there of which one might predicate gentility—the remainder were Tramps of the Pen, members of that great army of vagrants of the literary world which the newspaper has created “brainy, breezy, newsy;” scribblers—men possessed of a cheap smartness which readily catches the superficial tone of the hour, or the flashy complexion of an event, or dullards who have acquired the methods and tricks of their trade and bend themselves to their work machanic-fashion; all bitten through, inoculated and diseased with the vices and vulgarities of Journalism. What would Old Musty, the Rev. Plausibility, Mr. Goodman and our scrupulous matrons and all the “constant readers” of the newspapers (each reading that one that most vigorously scratches his particular mental itch), think could they see every morning what lies behind the white sheet they read? The types have not a changing physiognomy to reveal the flippancy, cant, ignorance or insincerity of the writer, and one may print on paper the secrets and shames and heartbreaks which dirty curiosity and menial search have discovered without making it bleed. And all for two cents! Really machinery has cheapened things when for two cents daily one can buy the nerves and the sensibilities of hundreds. Miss Prior—old Prior, you know, is a proud man and loved his daughter deeply—registered alone last night at a second-rate Broadway hotel and shot herself through the temple in the early morning. Great opportunity this for the *View*. When Raymond met Balder he was busy about it. Somebody must be deputed to view the room where the girl died, describe how and when and by whom the body was found, the clothes worn by the unfortunate and her appearance, and snatch, if possible, for publication every letter or scrap of writing found upon her. Her signature—that assumed name, a last feeble effort to close the door upon the world—must be copied and reproduced with crude illustrations of the hotel, the room where the tragedy occurred, the dead

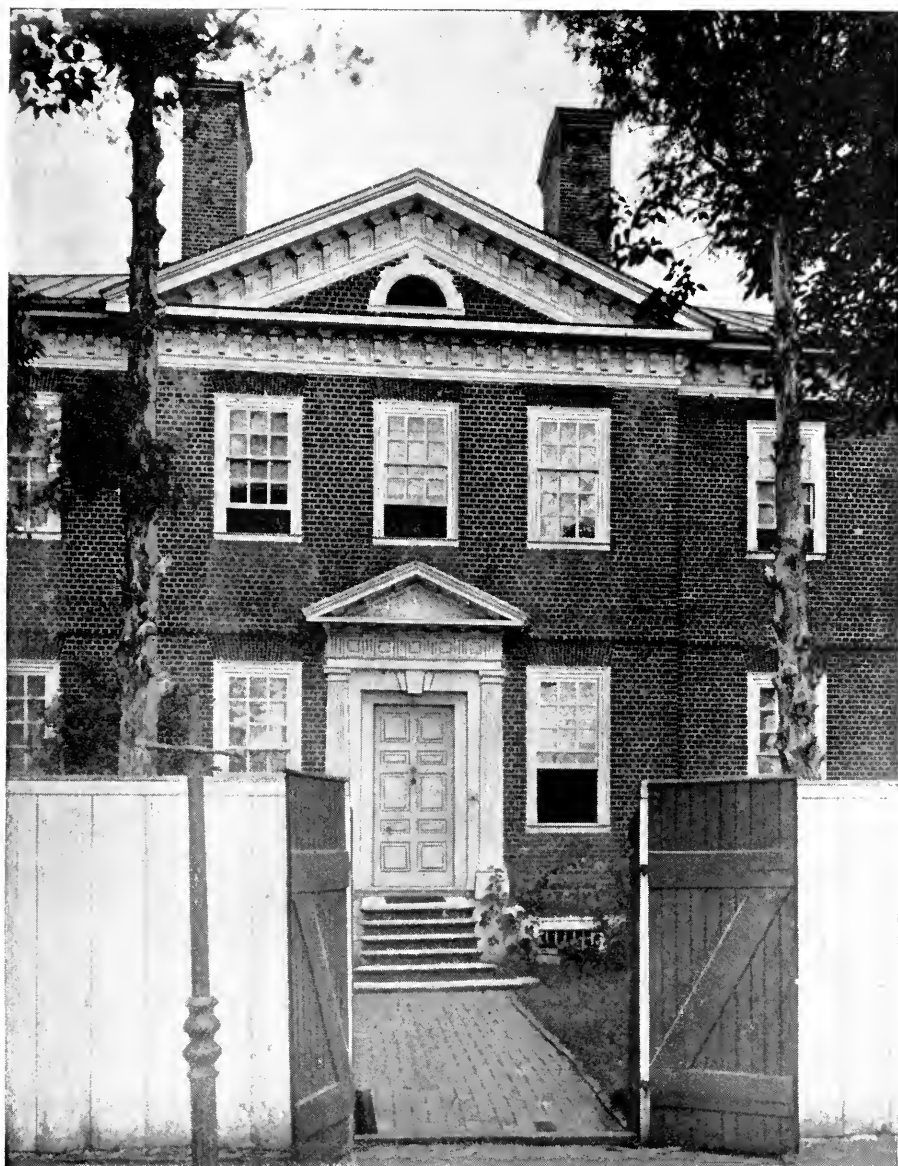
girl's face. Then Prior himself must be seen—his grief is a public occasion—the family must be questioned, school-mates and associates interviewed. And the reason for the deed? Ah! Suspicion points strongly in *one* direction. Could it be —? Unfortunately, on this matter we can only hint. Besides, sir, you musn't imagine from anything the prejudiced author of this history may tell you that there are not limits which a respectable journal will not overstep.

There was also the divorce case of Spill *vs.* Spill, the co-respondent being a married man of position with daughters just entering society. That important matter was also on Balder's hands. Secretary of the Navy Finch was about to marry, and as he wished the ceremony to be private *he* had to be watched. At the moment all the steamer piers in the city were under surveillance because Finch's fiancée was expected from Europe and Finch had dared to keep secret the name of the boat she was traveling on. The Press that boasts of American chivalry to women once dogged a President's fiancée, so the idea that a mere Finch could secure privacy for *his* little affair was absurd. At that time, too, Chief Justice Tod was dying and it was necessary for Balder to keep his men alert on the dying man's doorstep as well as in the vacant house on the other side of the street, so that servants and doctors and visitors, including Death himself, should be under espionage. Balder's hands, indeed, were full, there were so many dirty corners and forbidden places in the city to be looked after. Raymond watched him as he called up each of those present to his desk, instructed him and packed him off on the hunt for "news." Balder was not much over thirty—a putty-faced, fair-haired man, with a square, protruding, lumpy forehead. His manner was dictatorial, and in tone of voice, words, gestures, he was perpetually asserting a force and dignity which evidently he could not definitely persuade himself he possessed. It was curious to watch his puffed self-importance manifest itself. The world, one would think to see him, revolved around his little corner; indeed, when Raymond afterwards came to think of what he witnessed, the strangest part of all was the serious way in which everybody from Balder down took themselves. All acted as though the affairs

they were about were really important and of some concern to humanity. There was about them something of that sacerdotal air of gravity such as gives importance to the petty personalities of priests—the big house and its important transactions were behind them. When Balder had dismissed the last of his band he turned his attention to Raymond.

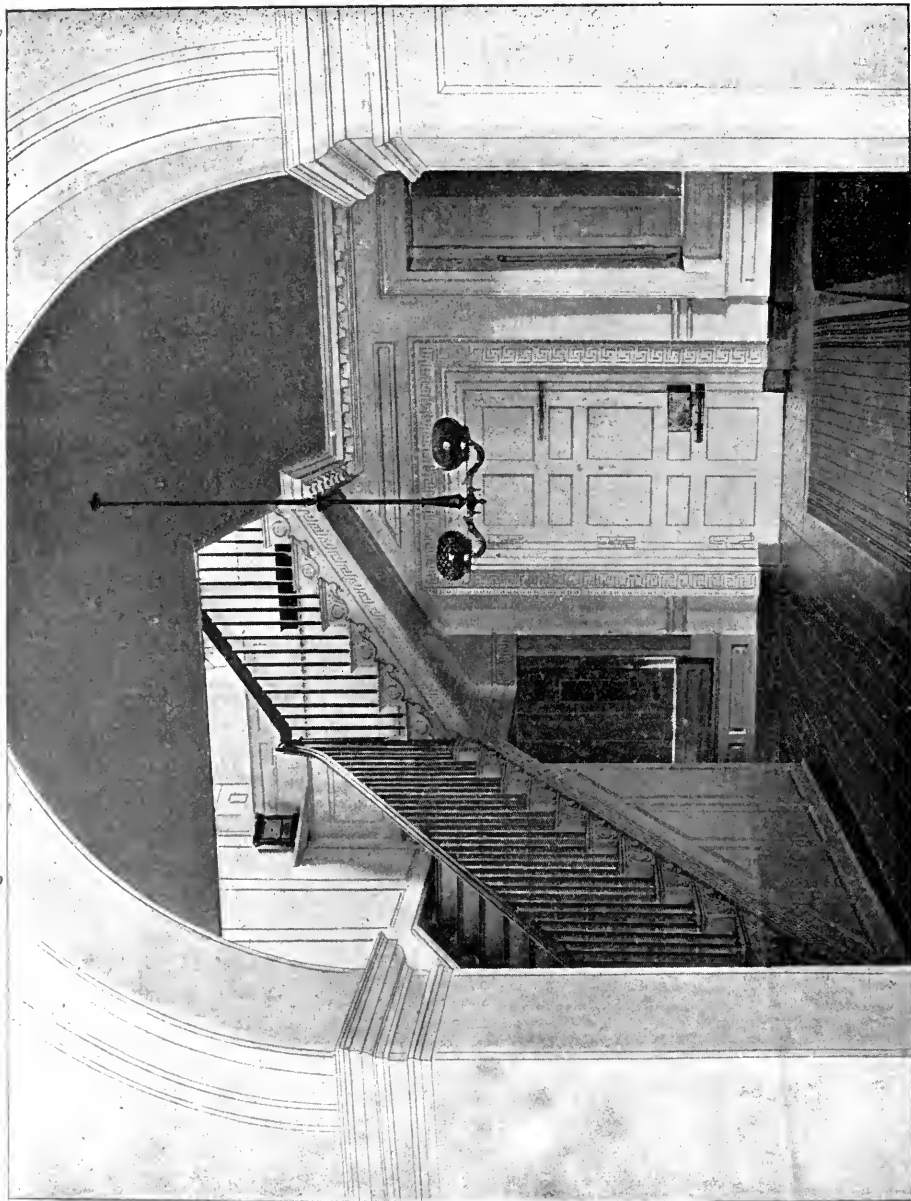
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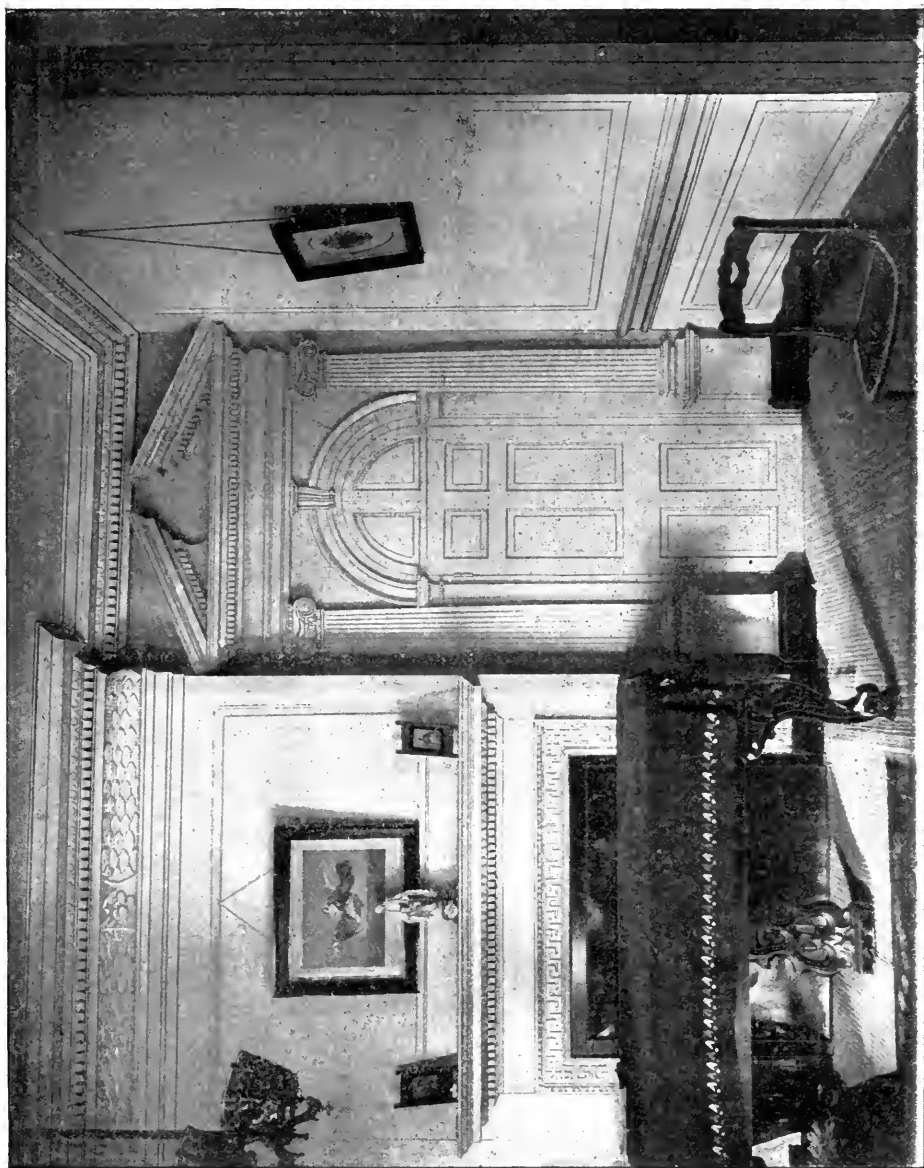
Annapolis, Md.

FRONT OF THE SCOTT HOUSE.



HALL OF THE SCOTT HOUSE.

ANAPOLIS, MD.



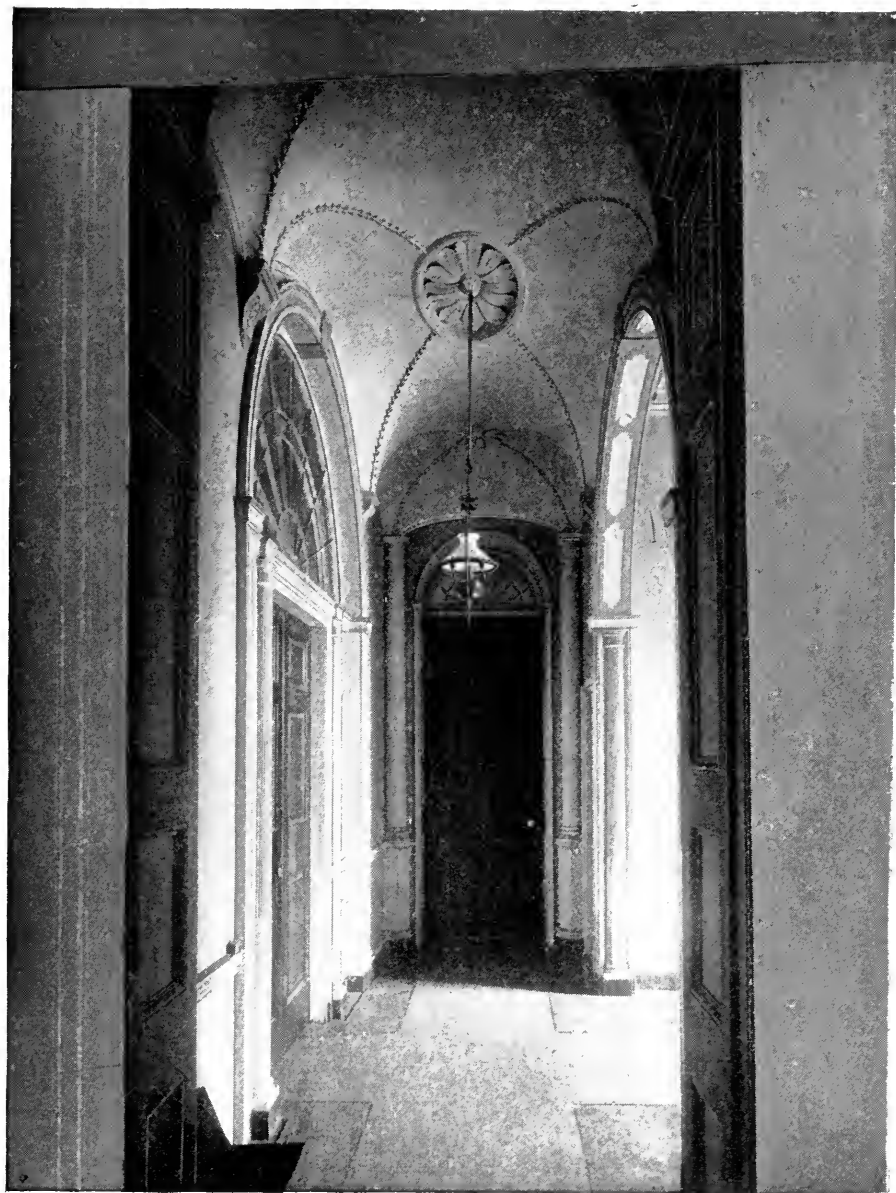
Annapolis, Md.

SITTING ROOM IN THE SCOTT HOUSE.



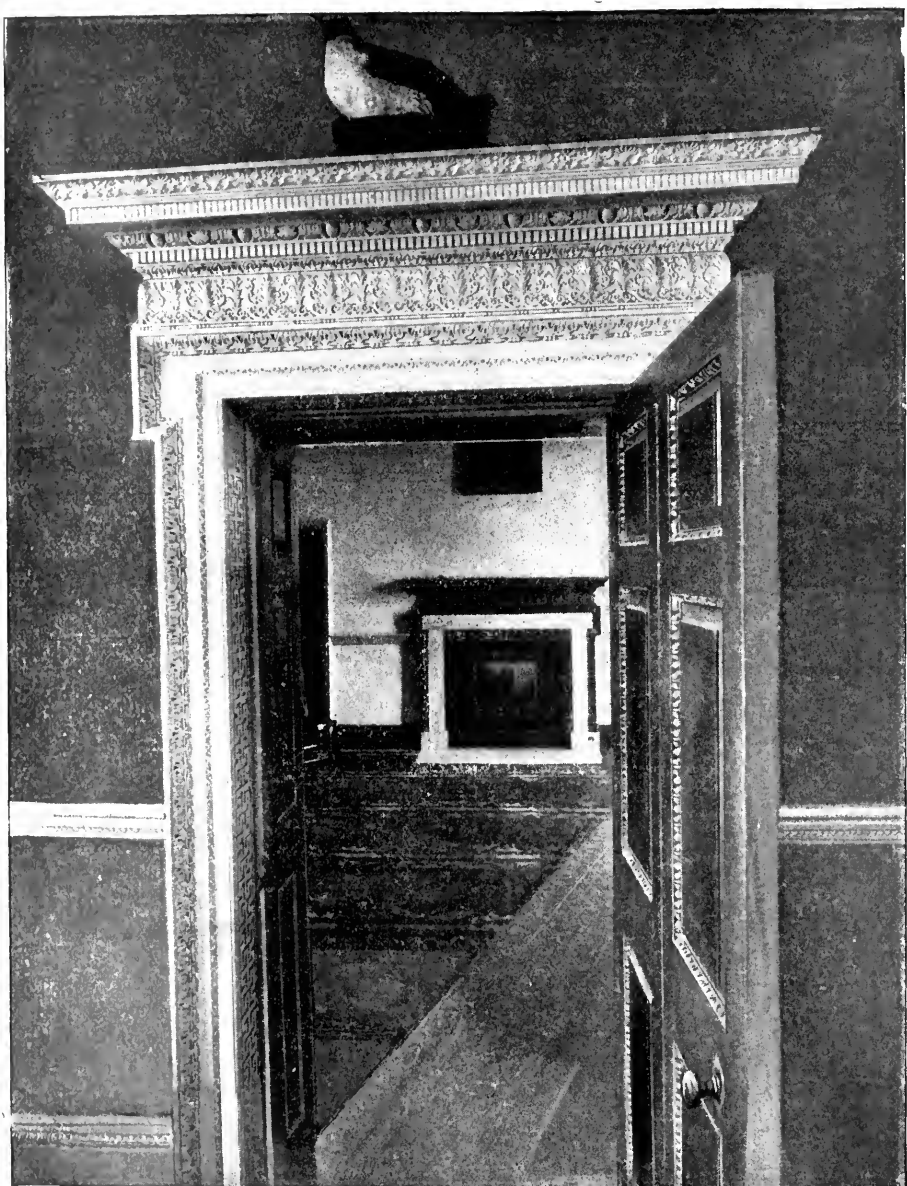
Baltimore, Md.

PORTICO OF "HOMWOOD."



Baltimore, Md.

HALL AT "HOMEWOOD."



Annapolis, Md.

PARLOR DOOR IN WHITE HALL.



Annapolis, Md.

OLD GOVERNOR'S BUILDING,



THE FARMERS' BANK.

The Architectural Record.

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THE ARCHITECT OF FASHION.



BEFORE proceeding to consider the architect of fashion and his influence upon current building, it is necessary to recognize that he is the product of his environment. He could not exist and flourish except in an anomalous condition of the art of architecture, such as now exists and has existed in Europe and America since the fifteenth century.

In the first place, it is only under the pressure of great civil, religious and social enthusiasm that a development of new ideas becomes possible, and only with the help of a poetical rendering can these ideas be materialized into human acts which call for architectural monuments which the technical skill of the architect can develop into works of art. The church, the state and society at large, are at this time engaged not so much in developing ideas as in discarding those that have become obsolete. We are in a state of transition, and just now very busy in tearing down, rather than in building up. Mentally we are given to science, to the observation of phenomena, and their recurrence. From these we learn the laws of nature, for the pure sake of knowledge. Some of us apply them to the material benefit of mankind.

If under these conditions monuments of the higher social, political and religious ideas are at present impossible, those embodying practical and material interests may be accurately defined and artistically developed in accord-

ance with mechanical organic conditions. Exceptional efforts in this direction are made with more or less success. A respectable number of architects, both here and abroad, practice architecture as a living art. They compose architectural designs with reference to the uses and purposes of the building in hand and also with reference to the nature of the material used and to the mechanical conditions of structure. They certainly abstain from covering actual constructions with forms which represent impossible mechanical relations of matter, and also from copying forms of doubtful fitness, used elsewhere, merely because they seem picturesque.

The tendencies of the young architect who has received a good education are generally in the right direction. His ambition is to excel in his profession. He is devoted to his art and permits no motives of personal interest to swerve him from this great aim. That but few continue in this course for any length of time is attributable not entirely to the weakness of architectural human nature, but to the weakness of the human nature of clients as well. The commercial demand for architecture in this country and at this time is exceedingly great and the profession is interested in knowing definitely its nature and function, as understood by its patrons. Our patrons of art know architecture only as a commercial commodity, with which they are not otherwise familiar and which must be approached with due business caution. The business way

of ascertaining the value of merchandise is to find out what the majority of people will pay for it. In the meantime one must not betray his ignorance, but gather information as he proceeds.

Let it be known that you wish to build anything whatever, and it is surprising how, without effort on your part, this sort of information flocks in upon you. Wherever you are, on 'Change, at your club, at board meeting, at your house, at your office, friends drop in on various errands, and one and all wind up by recommending some clever architect of their acquaintance. Direct applications for employment, personal and by letter, are not wanting. Architects of repute are known to send recommendations, references, testimonials and even sample drawings of their own manufacture. What is most gratifying to the patron in these personal visits of architects (which primarily seem a great bore) is the growing conviction that after all he knows more about architecture than he thought he did. He is told so in various forms. "His views betray great common sense," "it is surprising how they illustrate the motives of the early masters." "His suggestions are interesting as new problems in art." "It is delightful to converse with a client so well informed?" A future professional relation is anticipated with pleasure, and a resulting progress in art is confidently predicted.

As the patron of art acquires confidence in himself, he becomes more and more reconciled to the men who supply him with it. He talks of what he likes and dislikes and is assured that to follow the bent of his taste is the sure road to success. In the meantime, as a shrewd business man, he has made notes, and filed all papers and drawings, and finally renders his judgment in accordance with the preponderating weight of testimony in favor of some one applicant, yielding not a little to personal impressions produced by the candidate.

It is self-evident that a relation of architect and client thus initiated gives the lead to the client in the matter of art. The architect is not employed as are other professional men, to direct an enterprise involving questions of science

and art by reason of his knowledge in the premises, but because he has already conceded his client's views to be perfect, and has assumed the position of a mere draughtsman to carry them out.

Now what are these views of the client?

They are the feeble umbrageous impressions received by him from current architectural work, as far as he has observed it. He says, when he comes to think of it that this he likes, and that other he dislikes. Whatever you do, he says to his architect, or at least implies by his conversation, let it be not unlike this and not at all like the other. Nothing outside of current practice, no matter how good, is therefore admissible, and all the faults and errors of current practice are perpetuated. The greatest of these may be summed up by stating that the architectural forms of our time are conceived without reference to construction, and that the real construction is concealed by a false one, which in cases is in itself practically impossible.

This state of things has created the fashionable architect, the man who has the faculty of procuring himself to be talked about most, and who avoids architecture *per se* as a thing irrelevant to his business. The architect of fashion is he who aspires to be the fashionable architect. Like the modern politician, the architect of fashion has no convictions, but follows adroitly in the wake of public opinion. His aim is not to be a great architect, but to do a big architectural business, and in this he very often succeeds. Practice with him has in time developed even a positive dislike for architecture in the abstract, for whenever he has attempted it, in any degree, the result was disastrous from a business point of view.

To do justice to the architect of fashion, let us say here that he was not born so, nor is he consciously malicious or even cynical. He is shrewd enough to look after his material interests, and when he finds these inconsistent with the interests of architecture he drops architecture, rather than let the architecture drop him. Of course he has abandoned all claim

to immortality, to a statue in the Wal-halla, or a niche in Westminster Abbey, but he enjoys life while it lasts as a highly respectable member of society belonging to the most fashionable clubs, and although at times he gets very tired of it all, because of the humiliation of constant drumming and the silent gnawing of his professional conscience, he has the consolation of success and feels sure of pre-eminence until supplanted by an architect, even more eminently fashionable.

To understand him thoroughly, we must permit him to speak for himself:

"Your talk of Architecture as a living art is most delightful, and reminds me of Kugler, Lubke and Viollet-le-Duc and old Ungewitter; but it is not practical. Everybody admires it, but nobody wants it. My interpretation of Architecture as a living art is an art by which an architect can live. When I was young and enthusiastic and all that sort of thing, I procured with much labor an introduction to A. X., the great life insurance president, a dignified old gentleman, who received me in his office after waiting an hour and a-half in an outer room. He listened to me over his shoulder while I stood behind his big arm chair, as he had not offered me a seat, and I repeated with much trepidation a well-considered brief lecture on architecture.

"When I had finished, there was a pause of a minute or two, during which he read over twice an open letter he held in his hand; then he turned, with an evident effort to be amiable as far as his rooted dignity would permit, and said: 'Young man, my friend in this letter speaks of you in very high terms as a promising young architect. I dare say you talked art to him as you did just now to me. It sounds well and is apt to impose on persons less familiar with the subject than I am. Architecture, my dear fellow, is not a living art. Greek Architecture died before Christ, and Gothic Architecture before the Reformation, and that is the reason why we need architects well versed in art history to design our buildings. If, as you say, it were a living art, then any one could do it. Good morning, sir.'

"Now that I am older I know better. I never talk architecture to my clients. When a man is engaged in building a house or a store or a bank, his mind is naturally preoccupied. He doesn't want to be bored with architecture. Besides, between you and me, of what earthly use is architecture to an architect? Let me tell you it is a hindrance to success. What a man of business wants to know is that you can do the thing you undertake to do well and promptly, and the only way to convince him of that is to tell him so. For instance: After listening attentively to the wants of my client I say modestly, 'I believe, Sir, that I now have your views regarding the building, yet I cannot be quite sure of that. You have matured the matter in your own mind. To me many of the features are quite new though intensely interesting. I must ask you to grant me another interview, perhaps two or three after I have commenced plotting it out on paper. When I have fully mastered the subject as you have, then the work will go on rapidly. I do not expect to succeed with a first sketch nor a second nor a third or perhaps a tenth. I throw them off at the rate of two or three in a day, and reject all until I am satisfied. When once satisfied, however, I am sure you will have a design as near perfect as the human mind can produce. I then put from ten to twenty draughtsmen and two or three clerks upon it at once, and in two weeks from now we can proceed with the building. I need only six months to build it in. I can do it in five if need be. A client of mine said to a mutual friend of ours 'what I like in him is his promptness. He knows what he is about, and he tells you at once what he can do and what he can't do.'"

As to style, "The Architect of Fashion" continues: "It is wisdom to confine yourself to the vernacular. It is the only idiom which is popularly understood; not exactly understood, but, I should say, tolerated by public opinion. Ever since the beginning of the sixteenth century, say nearly during the last four hundred years, the bulk of the architecture of the civilized world has been Renaissance in style. When

men feed upon a steady diet physically or mentally for twelve successive generations the race acquires a taste for it. Not because it has analyzed its hygienic or intellectual properties, and has found them adapted to its physical or mental needs, but because the digestive apparatus has become incapable of assimilating other matter. Of course, you will tell me all about the revival of mediæval architecture during the last half century. You will point to the great achievements of Scott and Street, of Schmidt and Hansen, of Viollet-le-Duc and Gaertner and many others. You will speak of the restoration of the cathedrals, of Munich, the modern Romanesque City, of the Gothic work done in London and Vienna, and even in this country, but I will tell you that during all this last half century the bulk of the architectural work done, say nine-tenths of it or more, has been Renaissance. The pioneers of the revival of mediæval art are passing away one after another, and there are no successors to fill their places, mainly because the movement has not been a popular success. As for myself I prefer to rely upon the great majority for a supply of clients, and as clients go they pay well, and are not exacting, provided you humor their notions and recognize their good taste, and that is only human nature after all."

Thus speaks the architect of fashion, and thus he acts. It is desirable to know what becomes of architecture under his management, and incidentally how it affects the architect. To dispose of the latter first in as few words as possible; it seems clear that the architect is rapidly descending from his high professional position and ranging himself with that class of mercantile enterprise which, having no confidence in intrinsic merit and real usefulness to society, seeks recognition by drumming and advertising. The lawyer, physician, clergyman, engineer, yes, even the mason, carpenter and horseshoer, claim to have acquired a knowledge of the theory and practice of their respective vocations which is not shared by the public, and tacitly deny the right of their clients to decide

upon the methods and means to be used in carrying out the work intrusted to them.

The Architect of Fashion defines his position somewhat as follows: "Architecture," he says, "is a science as far as it relates to mere building, and an art in clothing the building in certain forms. The latter is a matter of taste, and the architect being an artist is presumably possessed of a large share of this taste, but in as much as the forms of architectural monuments are determined for us by architects of past periods, and cannot now be changed, and as furthermore our clients have a preference for certain architectural styles, it is but reasonable to admit public taste as co-ordinate with that of the architect."

There are those who assert that there is a logical relation between construction and the development of form, which is not a mere matter of taste or convention, but one of scientific demonstration. But the moment the architect of fashion admits this argument he practically denies his client's influence in the premises, and risks the loss of his patronage. By ranging on the side of the public, clients are prepossessed in his favor, and the number of his competitors is reduced to those who prefer business to professional convictions.

When to the architect is given the privilege of exhibiting his work on the corners of streets, on the highways and public places of the world, he can well afford to wait for recognition of his merit without advertising or personal drumming, unless, indeed, he has lost faith in his own work or in the intelligence of the public.

The architect of fashion *has* lost faith in the intelligence of the public. "They don't like Shakespeare," he says, "so I give them variations upon 'Potter of Texas.' Variations because they don't like 'Potter of Texas,' pure and simple for any length of time. They want something new; some marked change, but the change again must be in the style of 'Potter of Texas.'" So last year we had the Italian Renaissance with a decided feeling of the Colonial. What is the Colonial? Why the carpenter's interpretation of the

Renaissance as expressed in wood during the seventeenth and eighteenth centuries, delicate moldings hardly practicable in stone, decorations and carvings with just a touch of relief, for in the Colonial times much of this work was done in putty. It takes very well, for most people hate things decided either in form or color. Still they got tired of it, so this year they longed for something vigorous, and we treat the lower stories of our buildings with aggressive rudeness, rough stone ashlar, small openings, great iron gratings in front of them and above we continue with the Colonial Renaissance. The contrast is striking. Next year, no doubt, we will have to go in for the Rococo, the latest phase of the Renaissance in France and Germany. It is elaborate, and doubtless will take on that account. Yet some of our most fashionable architects are of opinion that the early Renaissance of the Italian school, plain walls, bulged ashlar, openings far apart, small and plain in treatment, will be the leading style. They say that Boston is already prepared for it, and if it succeeds there Chicago is sure to follow. New York, however, is more conservative. There is a strong talk here of a return to the Grecian of the Treasury Building and the Custom House (the old Merchants' Exchange in Wall street), and if that tide sets in in time, it may save that building from being demolished. Queen Ann, it is now agreed, is dead, and past the possibility of another revival.

Bold innovations, such as piling up quarry-faced stone, grotto fashion, exaggerated by pitching off the edges so as to produce a projection from the bed of six or eight inches, huge arches with immense voussours and no abutment to mention, enormous entrance doors extending to the full height of the building, are striking features of no artistic merit, quickly appreciated and admired and as quickly cast aside. Thus the architect of fashion maintains a well-stocked repertory of striking architectural forms; striking, because most frequently gathered from periods of architectural decay, and also of heterogeneous building material, loud in color and contrast and peculiar in form and

texture. From these he compounds combinations which constitute the fashion of the day.

Considered from a business point of view it saves much time. Once the leading draughtsman of the office is informed of the annual change, office work takes care of itself.

The old method of spending weeks and months in designing in the seclusion of one's library is utterly impracticable with the modern business habits of the architect of fashion. Two or three hours in the morning must suffice for office work, which consists mainly in receiving prospective clients, in brief and rapid interviews with clerks of the works, in signing certificates for payments to builders and dictating a few letters generally directed to hurrying delinquent work, for the architect of fashion must maintain a high reputation for doing work promptly and rapidly. The afternoons and evenings are devoted to social intercourse with probable clients who are visited at their offices, met on 'Change, in banks and insurance buildings, and later at clubs, receptions and public meetings.

The architect of fashion is ubiquitous. His problem is to procure new orders—jobs, as he calls them—and to this he devotes all his time and energies.

Now, let us turn to architecture to see how she fares under the rule of the fashionable architect. Architecture has ceased to be an art and has become a business, a fashionable business carried on by business methods on business principles.

The chief of the business, the Architect, no longer pretends to be a man of learning, of varied attainments, of a liberal education, of studious habits, retiring, modest, shrinking from contact with the world, devoted solely to his art. No, he is a man of business, a man who startles the world by his bold combinations of architectural bric-a-brac.

It is said of Worth, the great French artist in female garments, that he will contract to make a fine dress for a few hundred francs, but for a few thousands he will produce what he calls a dream. The fashionable architect also

deals in dreams in architectural inspirations, combinations of fancy; hence he is a genius, too, a genius *a la mode*, like Worth.

Art, in the general acceptance of the term, is the skill (technical knowledge and mechanical facility, the results of study and practice) by means of which man is enabled to create organisms, or represent them in matter in imitation of nature. Fine art means the creation or representation in matter of organisms which express an idea.

Raphael's "Madona," Thorwaldson's "Apostles," Dante's "Inferno," the cathedrals of the thirteenth century, Bach's "Oratorios;" all these are works of fine art. They express in painting, sculpture, music, poetry and architecture the Christian idea of religion. Similar instances may be cited of the various fine arts of Greece and Rome.

It is not fine art to copy any one of these works or to combine parts of them into one whole. For instance, a series of quotations from various poets, though it may bear upon the expression of an idea and may even be a meritorious literary effort, is not a work of fine art. The same applies to architecture. To copy a building or to combine features of various buildings, no matter how meritorious the originals, is not in any sense a work of fine art.

The fashionable architect not only copies buildings as a whole, which, by the way, is not the worst of his sins, but he combines features of various buildings into what he calls a design. More than this, he decides beforehand what particular features he intends to combine for the next year or two for use in all buildings without reference to their nature or materials. Theatres, academies, club houses and banks are all built after these models of fashion.

For instance, during the fifteenth and early in the sixteenth century the palaces of Florence, like the Strozzi, Riccardi, Ruccellai and others, had high basements above the street level devoted to domestic offices and servants' quarters, which basements were lighted on the street with small square

windows, the sills of which are from eight to sixteen feet above the floor.

Now there was a very good reason for this. The feuds and factions of families were very warm in Florence in those days, and the palaces had to be fortified against popular risings. No such necessity exists with us at the present time, yet we see many specimens of basements of the kind, of which the small windows are besides protected on the outside with heavy iron gratings.

The portico of the Greek temple consists of columns supporting an entablature and cornice, upon which rests the gable or pediment. The cornice is the covering of the structure, its protection against the weather, hence its projection. The entablature is the lintel which sustains the cornice and the superincumbent pediment between the columns. If for the colonnade we substitute a wall the entablature becomes superfluous, and the magnitude of the cornice, although accepted as proper in a temple and perhaps also in a palace, should doubtless be reduced in secular structure, both in height and in projection. We observe this to be the case, not only in the earliest Roman domestic structures, but also in the Basilicas. Renaissance architecture, as derived from Vitruvius and his expounders of the fifteenth century, maintains the cornice and entablature as an indivisible whole whether sustained at intervals or continuously by a wall and by columns. Moreover, this crowning feature is introduced at every story, with a full projection of cornice, as though it were the top of the building.

The architect of fashion accepts these forms as of good authority, and adopts them in his combinations. More than this, he is swayed by motives of habit, otherwise tending in opposite direction. During what is termed the colonial period, cornices and entablature were made of wood, and attenuated accordingly. The subsequent invention of the zinc cornice enabled ambitious architects to indulge in exaggerated cornices at a moderate cost. The architect of fashion builds his cornices of stone, but vacillates between

the meagre colonial and the exuberant zinc in their form and magnitudes.

When art is the result of logical reasoning, errors are gradually corrected; when it is only a matter of fashion, errors in one direction are superseded by errors in the opposite direction.

Dress is by fashion designed independently of the needs of the human figure. The architecture of fashion also means aggregation of forms, independent of the purposes of the building, its construction and material.

A modern building in the City of New York, intended to be let for offices, came under my observation recently. Two stories of this building are absolutely useless for the purpose, because the windows are exceedingly small (square in one of the stories and round in the other), and in both cases placed 5 feet above the floor. Upon inquiry, I was told that the architectural exigencies of the structure required this arrangement. This is a striking illustration of the superstition of the fashionable architect that architecture is independent of the uses and purposes of the structure to be designed, that a design is to be a mere aggregation of architectural features arbitrarily combined by force of genius and not at all constructively developed from the environment, use, position and material.

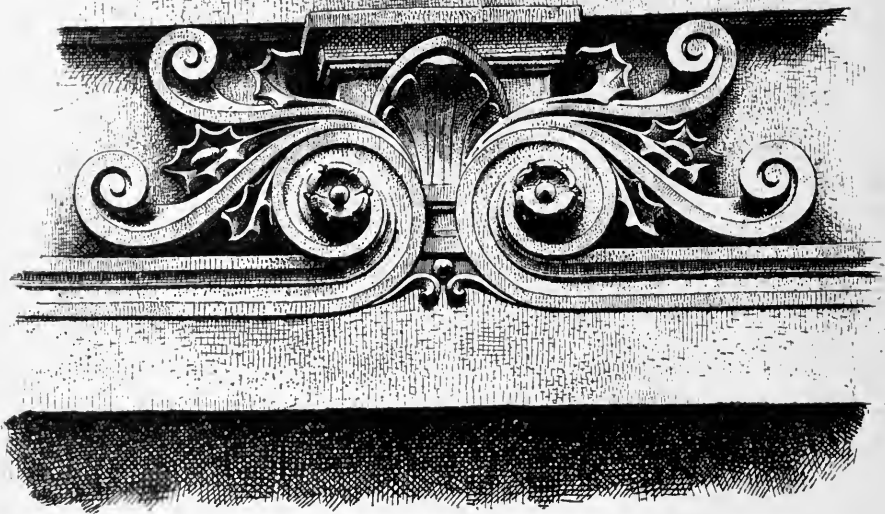
The painter of portraits, skilled in his art, adroitly engages his sitter in conversation until he hits upon the subject of greatest interest to him which brings out an animated expression of his favorite ideas. This expression he endeavors to depict upon his canvas.

He finds it to be elusive, consisting as it does of peculiarly modified lights and shades. The portrait, perhaps, looks cunning, while the painter desires it to look wise. Finally he hits upon it. A certain high light of very small dimensions is modified by a minute dot of gray and the cunning man looks wise.

The lights and shades of the human face and figure are the result of modification of the muscles, which in their turn are affected by nervous action originating in the brain, the seat of thought and ideas. Architecture is the art of celebrating human ideas in the monuments it creates. The architect, unlike the painter, cannot hope to apprehend them in a model. He must study their organic developments by means of mechanical relations which constitute the nervous system of a building. He must recreate with the help of nature's laws, as the Greeks and the masters of the middle ages recreated before him. When science has furnished him with forms, he must model, decorate and color these forms in accord with the laws of construction. To do all this successfully, he must be the master of his work, not the slave of a layman's crude conception of what ought to be. This means professional independence, ample time for study, love of the art, and devotion to it first of all without regard to mere business interests.

The methods of the architect of fashion lead to the opposite of all this, hence he has become one of the most pronounced and prominent of the obstacles to the progress of architecture.

Leopold Eidlitz.



ARCHITECTS' HOUSES.

Part III.



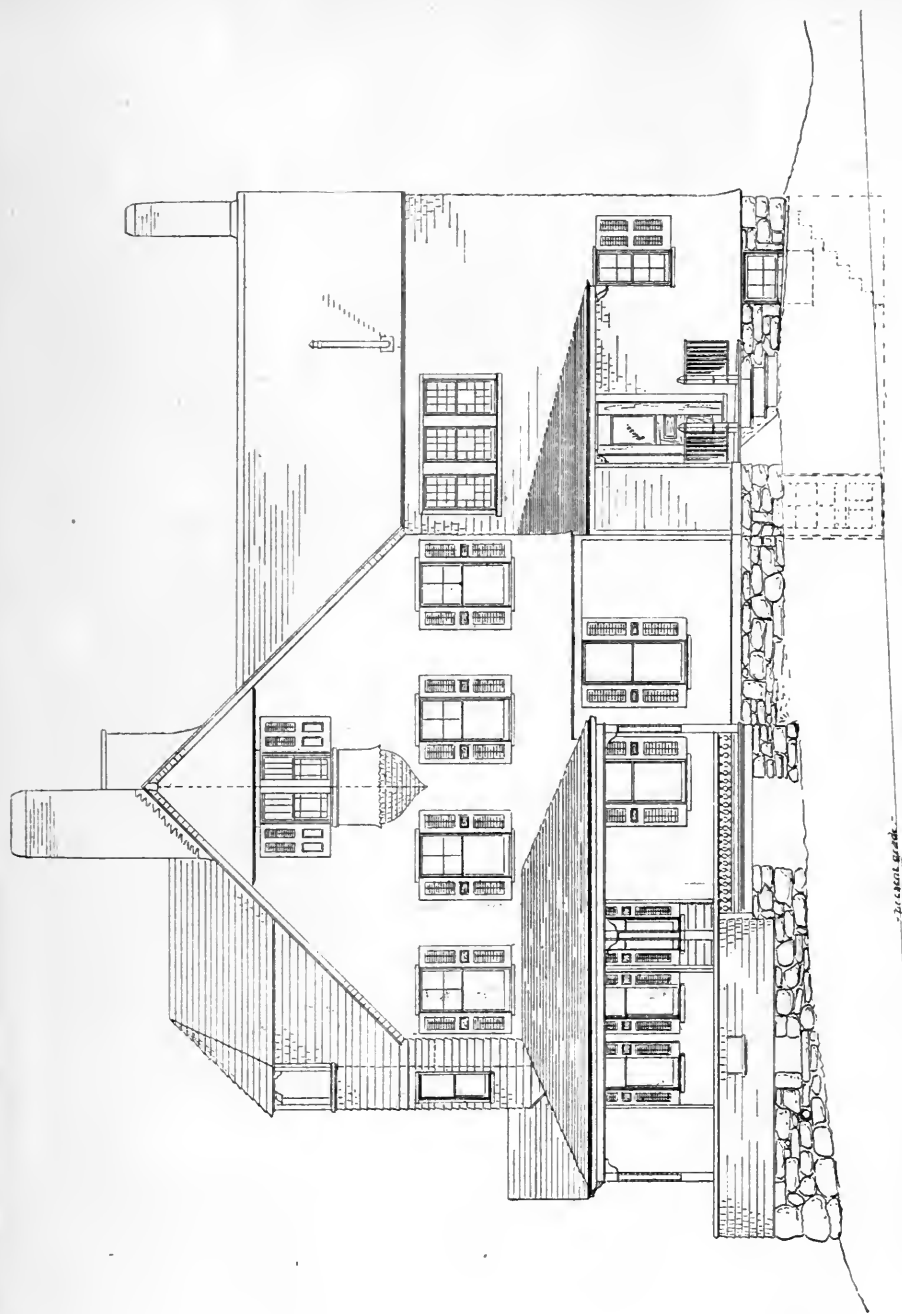
JUST before the plastering is done the iron drainage and waste pipes are put in place, to be afterward connected with the fix-

tures—the basins, tubs and such, that will be used. If these iron pipes are to be concealed inside the partitions they are put up before even the lathing is done, between the partition studs and the floor beams, and this is the usual way; but it is much better to put them on the outside of the partitions, in full view, except where they pass through the floors. When this is done they are best put up after the brown plastering is done and before the white finishing coat of plaster is applied, as the rough plumbing is a dirty work at the best, and will reduce white plastering to black plastering in a very short space of time. The reason why the pipes are better exposed, is because it is so easy in case of a suspected defect to apply the usual tests for leaks, the peppermint test or the hydrostatic test, both of which, we will assume, you

know all about, and will not enlarge upon just now.

These iron pipes are usually of cast-iron, and the makers have attained a wonderful skill in the manufacture of them in casting them as thin as possible; about an eighth of an inch is the standard thickness, and it is quite enough if—and it is a very large if—if the casting is uniform and free from sandholes. In the best plumbing, what is called “extra heavy” pipe, about a quarter of an inch thick, is used, and is a good thing to use everywhere, but you will have to pay for it.

Quite the most important of the recent improvements in house drainage consists of carrying the main drain pipe all the way to the top of the house and out through the roof. That this is an improvement everybody is agreed, and it is easy to see how it is so. It affords an opportunity for the bacteria-laden exhalations from sewer or cesspool to escape by an easy path, diminishing the chances of their escape into the rooms, and it prevents the siphoning of the traps to a great extent. Beyond this gen-

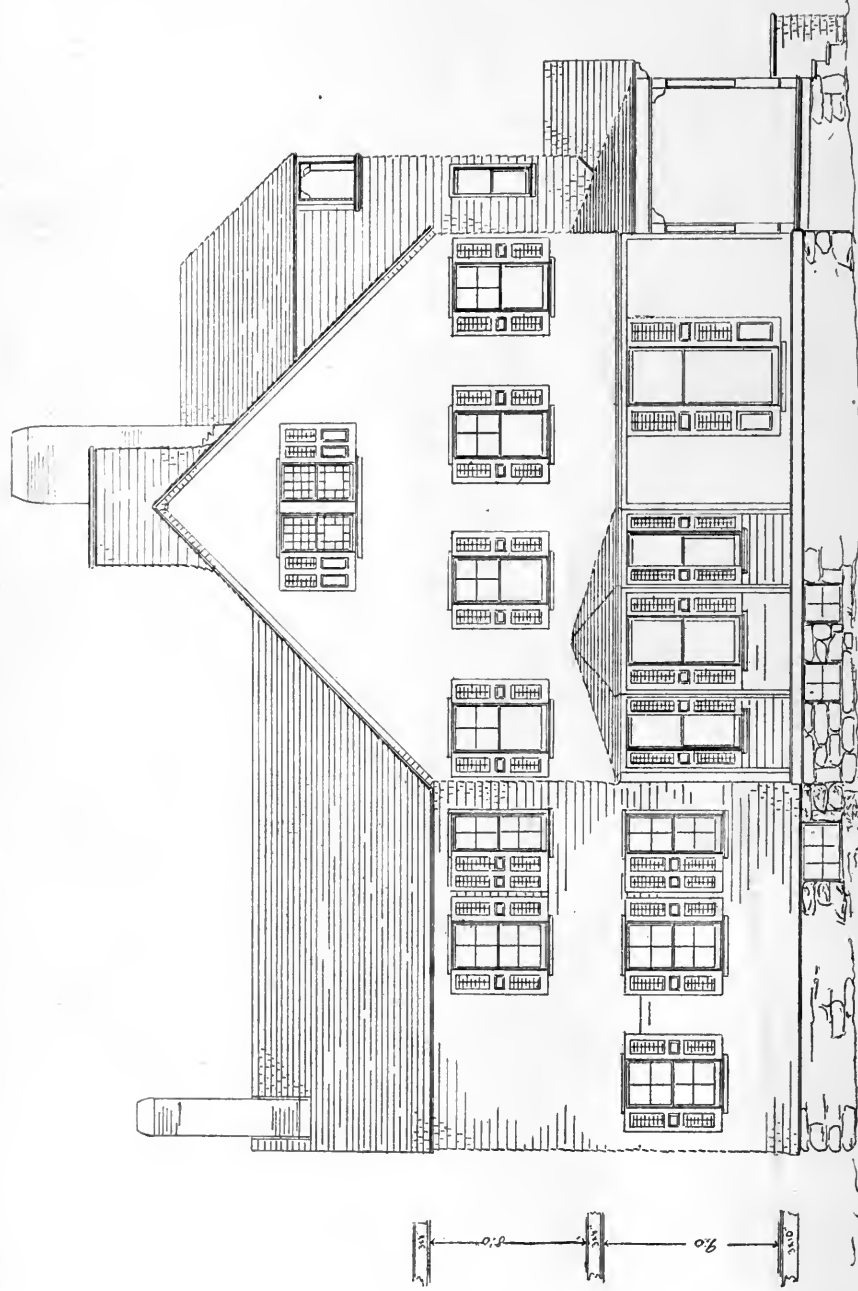


present work

Lake Hopatcong, N. J.

SOUTH ELEVATION OF RESIDENCE FOR LEONARD PFEIFFER, ESQ.

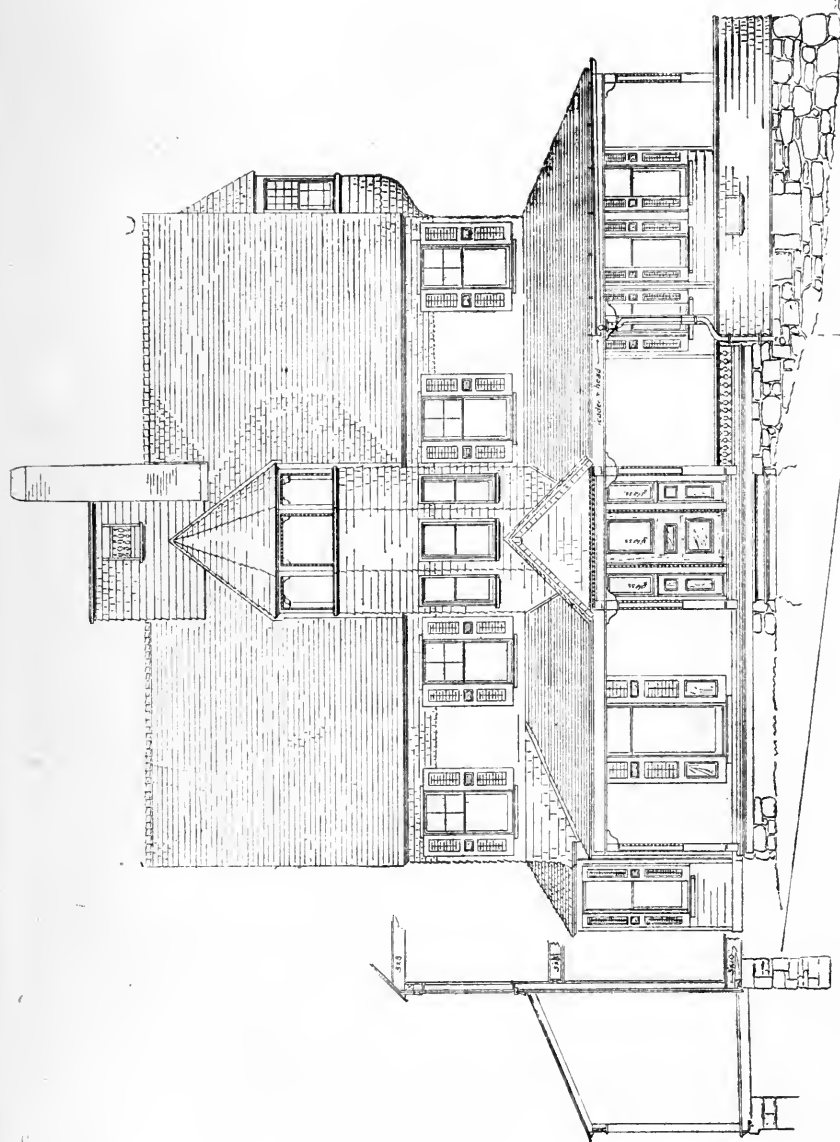
H. S. Ihnen, Architect.



Lake Hopatcong, N. J.

NORTH ELEVATION OF RESIDENCE FOR LEONARD PFEIFFER, ESQ.

H. S. Ihnen, Architect.



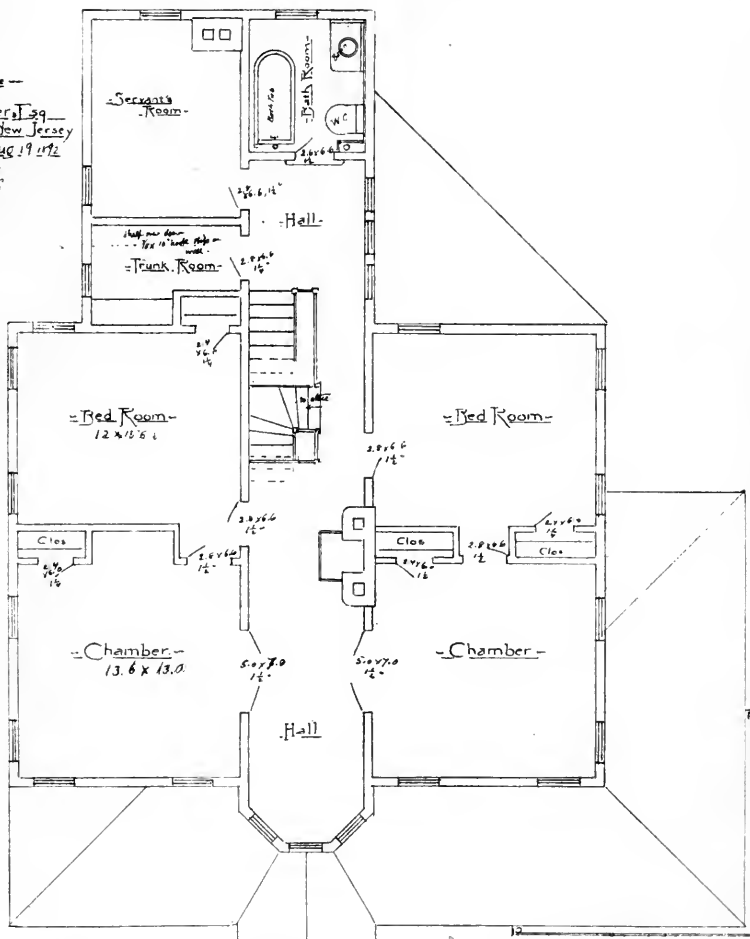
Lake Hopatcong, N. J.

WEST ELEVATION OF RESIDENCE FOR LEONARD PFEIFFER, ESQ.

H. S. Ihnen, Architect.

-- Summer Residence --

Leonard Pfeiffer Esq.
Lake Hopatcong New Jersey
Scale 1/8" = 1'-0" Aug 19 1912
H. S. Ihnen, Archt.
41 Grand N.Y.C.



-- Second Story Plan --

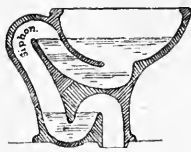
FLOOR PLAN OF RESIDENCE FOR LEONARD PFEIFFER, ESQ.

Lake Hopatcong, N. J.

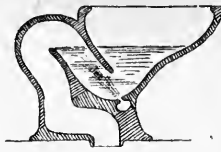
H. S. Ihnen, Architect.



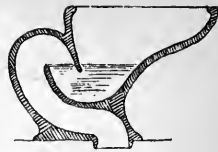
WASHOUT CLOSET.



SIPHON CLOSET.



JET CLOSET.



PEDESTAL HOPPER CLOSET.

The illustration shows the four principal types which have supplanted the older kinds. These new types are usually made all in one piece of solid porcelain, arranged to hold the water in a bend in the outlet in such a way as to prevent the issue of foul gases, and they differ among themselves chiefly in the methods of causing the necessary flow of water. They all differ, however, from the older ones, in that they have not the complicated and imperfect mechanism formerly in vogue.

eral approval of the open-end waste pipe, however, authorities differ. Whether we shall have a main house trap or none, foot ventilation or none, trap ventilation or improved unsiphonable traps is a matter of dispute among the authorities. In New York City work there is no choice. The Board of Health, or rather now the Department of Buildings, lays down rules which require this and that and the other, without possibility of experiment or improvement. Their system may be the best, when I am under compulsion I have no opinion, but it is very much the most costly method devisable, and when I am free, as in the case of country work, to have an opinion, I regard it as very objectionable.

The objections to it are fully and ably stated in J Pickering Putnam's book, "Principles of House Drainage."

Briefly, it may be said that even if carried out in an ideally perfect way, it would be a clumsy, roundabout and unscientific method of reaching the end in view.

When it comes to the fixtures we have no longer to struggle with unsolved scientific conundrums; not at least to so great an extent. Our trouble is from another source entirely; it is, I am tempted to say, from an *embarras de richesse*, but that is so hackneyed—such a lot to choose from, is the bald English of it.

Go into any large manufactory of plumbing fixtures and you will find a row of about twenty water-closets, for example, each of which the salesman who knows his business will stoutly maintain is the best, and all of which probably are very good.

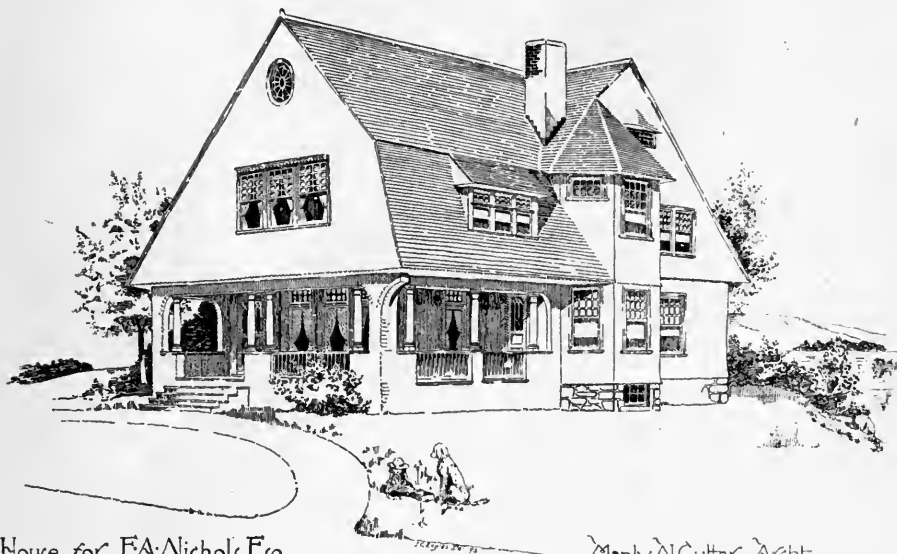
But here you have an array of back outlet and front outlet and side outlet, round bowl and square bowl, all porcelain, porcelain and iron and all enam-

eled iron, two-pipe siphon, one-pipe siphon, jet, washout and hopper closets, with still more uncatalogueable modifications and improvements by each manufacturer, until we take refuge in tossing up a cent for a choice.

Probably the best is some form of siphon closet or the jet closet, with a jet of water entering at the bottom of the trap. I know of no better illustration of the efficacy of liberty and competition in reaching a given end than the rapid improvement in plumbing fixtures that has occurred since the matter was brought to people's notice.

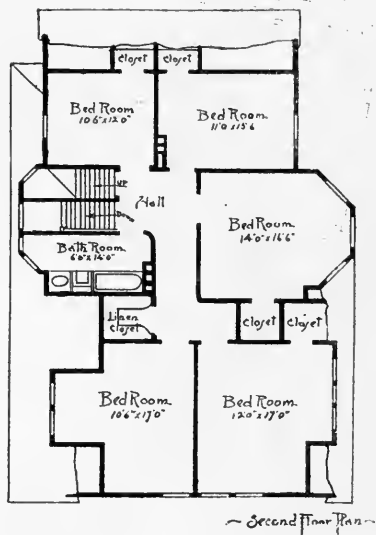
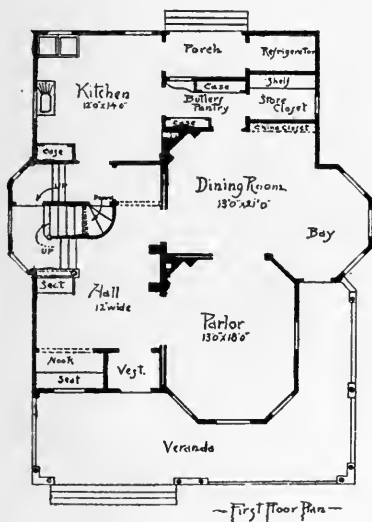
Next to water-closets come baths, and here the choice is easier. The all porcelain bath, costing a trifle of \$300, with carved marble claw feet, at \$75 apiece, such I have put into very costly jobs of plumbing, are not quite available for the ordinary house. No more is the aluminium bath, the latest thing out, in trade slang, and costing about as much as the porcelain. The most available bath for ordinary good work is without doubt the enameled cast-iron tub, standing on its own legs, and not inclosed with woodwork; have the outside and legs painted with some of the patent enamel paints, or with ordinary white paint with a glossy finish, and you will have about as satisfactory an arrangement as need be desired. If cost is an important consideration, beware of indulging in over-elaborate cocks and waste stoppers. These are made in great variety, and some of them cost as much as, or more, than the bath proper. Whatever you choose, nickel-plated is the proper finish. Both plain brass and silver plated are very difficult to keep bright, without continual and laborious attention; nickel-plate almost takes care of itself.

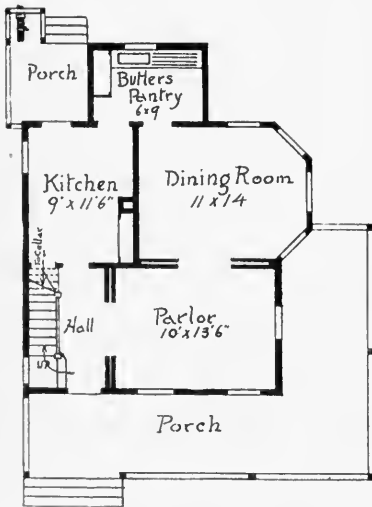
Besides the cast-iron enameled tub there are various other types in the



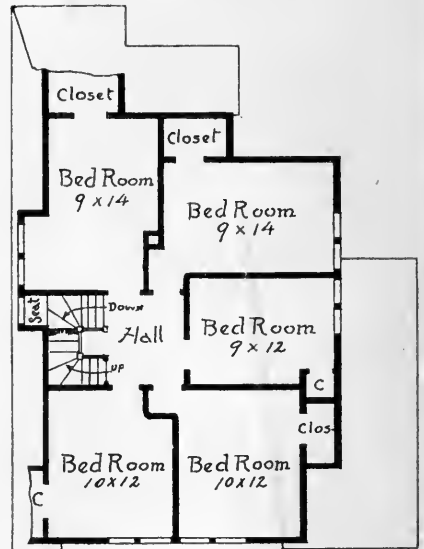
House for F.A. Nichols, Esq.
-AT- ARLINGTON-N.J.-

Monk N. Cutler, Archt.
-18-BROADWAY-NY-CITY-





First Floor Plan



Second Floor Plan

RESIDENCE.

Manly N. Cutter, Architect.



RESIDENCE.

Rossiter & Wright, Architects.



South Orange, N. J.

RESIDENCE.

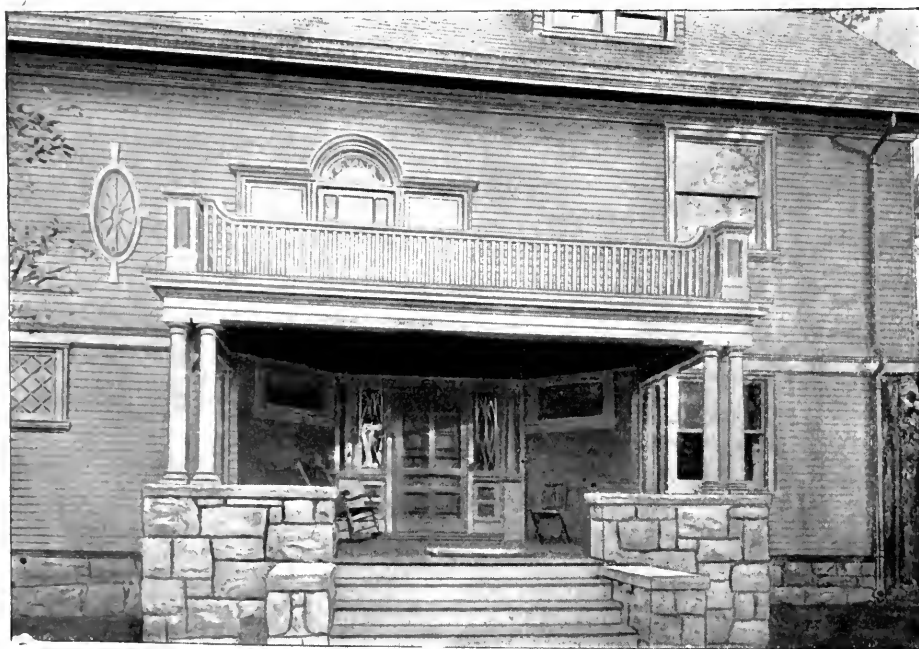
Rossiter & Wright, Architects.



Glen Ridge, N. J.

RESIDENCE.

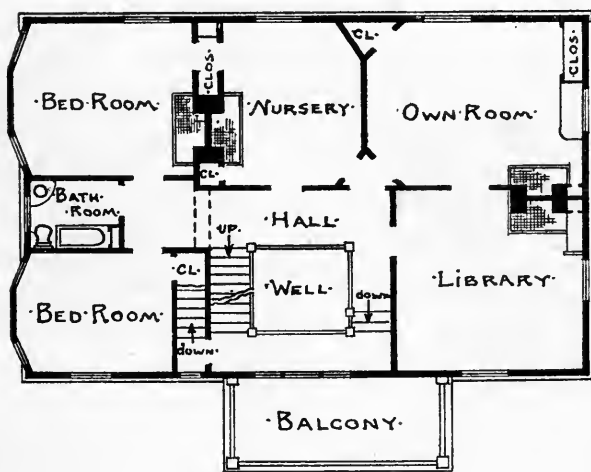
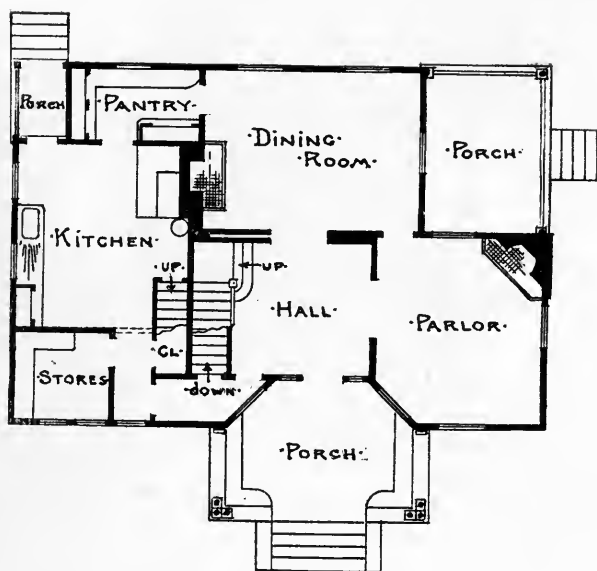
Wilbur S. Knowles, Architect.



Glen Ridge, N. J.

ENTRANCE TO RESIDENCE.

Wilbur S. Knowles, Architect.



FLOOR PLANS OF RESIDENCE.

Glen Ridge, N. J.

Wilbur S. Knowles, Architect.



Brooklyn, N. Y.

HALLWAY.

Charles P. H. Gilbert, Architect.



Brooklyn, N. Y.

RECEPTION HALL.

M. W. Morris, Architect.



New Hamburgh, N. Y.

HALLWAY IN RESIDENCE OF MRS. LENOX BANKS.

Thomas Nash, Architect.



A DINING-ROOM.

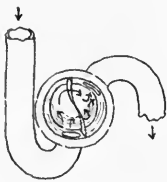
J. R. Thomas, Architect.

market, the old-fashioned, but still much used copper tub, which is always the cheapest and serves very fairly, and a new cast-iron tub lined with copper, which is sold at a lower price than the same tub enameled inside would be, and appears to be a good invention, though for appearance at least, and I am inclined to think for durability, I should choose the enameled kind. Recently brought out, too, are tubs of the same material as so-called paper pails are made of; indurated fibre is the magnificent trade name; but I fear these have insuperable faults, although I have never used them, have been afraid to, you know how the pails go, as soon as the slightest crevice occurs in the outside paint, such I should apprehend would be the fate of the baths.

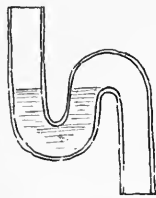
About wash-bowls there is little that need be said; the briefest mention is sufficient. One thing—don't inclose them with wood, with a closet underneath. Let them have legs or brackets and stand quite open, showing the pipes and all underneath, ugly though they be, for polished brass we are not going to spend our substance upon in this instance.

So about wash-tubs and sinks and all the rest, we might go into the most minute criticism, but it is really hardly necessary, let us dismiss them with but the name.

Under all of these fixtures there must be what are called traps, not mouse-traps, but an arrangement to prevent



"SANITAS" TRAP.



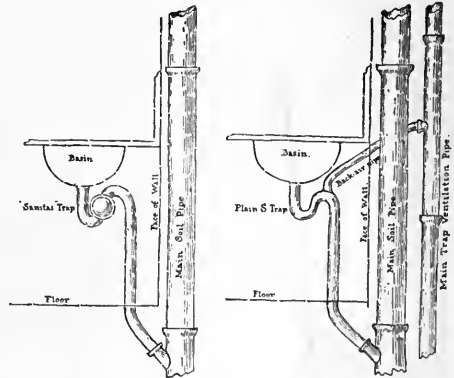
"S" TRAP.

The sketch shows an ordinary S-trap, as it is called—a mere bend in the pipe, as it were, where the water lies and prevents the bad air in the pipes returning into the room. The trouble is that the pipe is apt to act as a siphon and draw the water quite through instead of letting it stay in the bend as it is shown, besides other defects which the books will tell of at length. The Sanitas trap is hard to show in a drawing.

the gases from the drains escaping into the rooms. It is upon this question of traps that the discussions of sanitarians

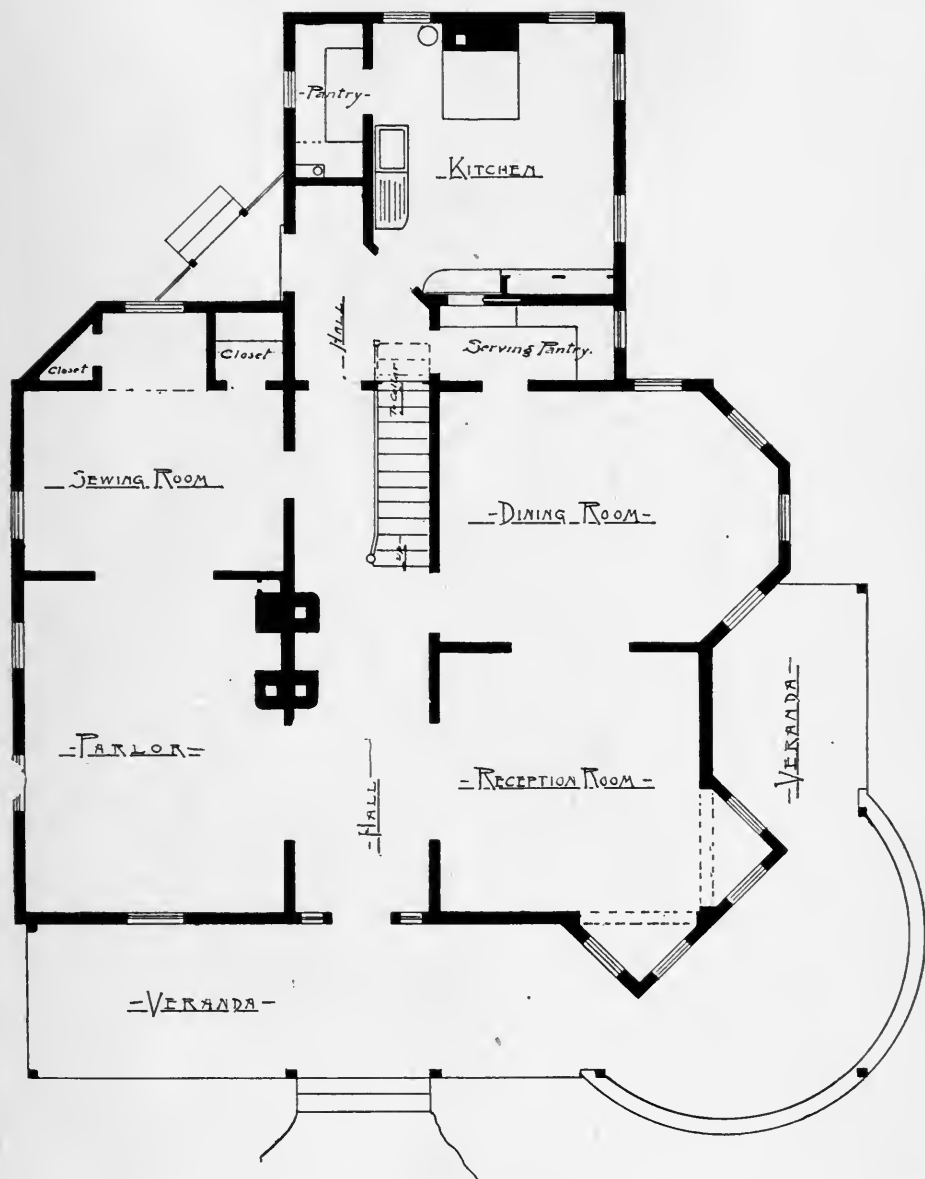
centre. One way to do is to run a pipe from each trap to a vertical pipe, which itself runs to the open air above the roof. This is called the vent pipe, and the arrangement is called venting the traps, a curious instance of inversion of sense by a mere mechanical accident of language. The proper word is ventilate, but ventilate and ventilation being long words to write, and especially to print upon drawings and diagrams, the contraction vent came to be used. Now a vent is a place to let air out, while the particular business of these ventilating pipes is to let air in.

The whole business I believe to be a blunder. The only reasonable thing to do is to devise some kind of a trap which shall need no such absurd appendages for proper working. Such a trap is the "Sanitas" trap, and I have always used it in country work with perfect results; possibly there may be others as good, although I do not know of any. Use this by all means, if you are outside the jurisdiction of tyrannical boards, under all fixtures, except, of course, the water-closets, which are traps unto themselves. Paint the traps and the pipes white or some other color, and a very slightly and reasonably inexpensive result is obtainable.



The sketch shows two basins, otherwise alike fitted up, the one with a "Sanitas" trap, the other with a "back-siphoned" S-trap. The difficulty of reaching the air-pipe is great, and the complication increases when three or four fixtures are involved, as is shown in Mr. Putnam's book before alluded to.

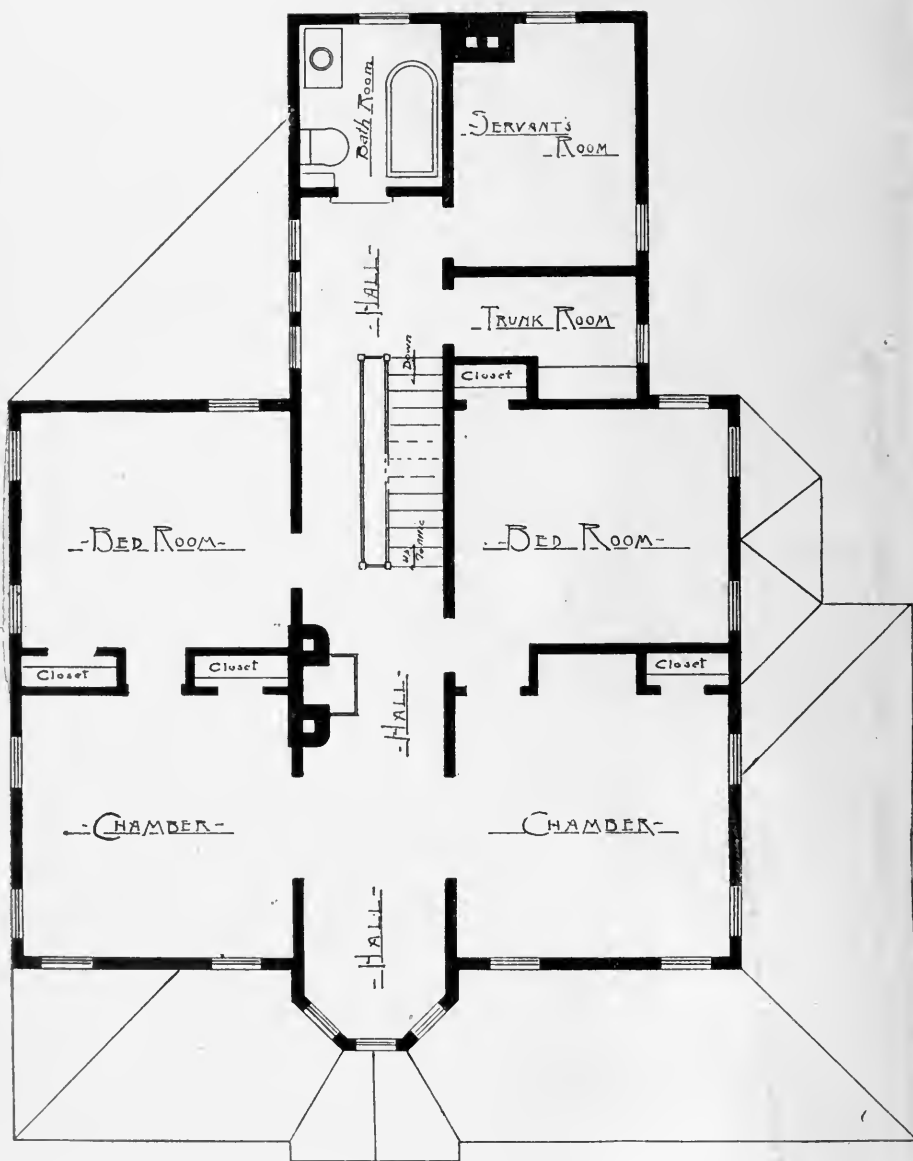
It may be noted that the use of galvanized iron for supply pipes has increased much within a few years. While formerly it was thought needful to have lead pipe for an ordinary job of plumb-



Atlantic Highlands, N. J.

RESIDENCE OF G. F. LAWRIFF, ESQ.

Manly N. Cutter, Architect.



Atlantic Highlands, N. J.

RESIDENCE OF G. F. LAWRIE, ESQ.

Manly N. Cutter, Architect.

ing, now in some of the best work galvanized iron is used. No doubt in time it does rust, and the first flow of water is more or less discolored, but beyond this slight drawback the galvanized pipes seem to have no disadvantage; on the contrary, in many points they excel the leaden ones. First of all there is no insidious source of poisoning in the zinc galvanizing as there is in the lead; secondly, being of a uniform thickness there is not the perennial doubt as to whether lighter weight pipes have not been put in than were intended; for it is a matter of very delicate gauging to distinguish the different grades of lead pipe by their outside measurements. In the third place there is much less danger that the strong iron will give way under frost or violence than the fragile lead; especially from rats' teeth or stray nail points are iron pipes secure. So galvanized iron it is now, except for the superfine work where polished brass pipes are used, which require shekels in abundance, not only from the cost of brass, which ought not to be so much, but from the difficulty of making bends and of manipulation generally, and the careful and delicate handling that such easily-marred material demands.

The drainage of a country house is unfortunately apt to reduce itself to a question of cesspools. Sewers are bad enough; our whole system of water carriage of refuse, ending by depositing it in the bed of lake or sea, may be destined to fertilize continents that shall hereafter rise to be inhabited by our descendants ten thousand years from now, but is certainly not adapted to benefit ourselves now in the slightest degree. The whole thing is radically wrong, manifestly and admittedly a mistake, yet so tied to us by custom, by legislation, by easy availability of appliances, that it would be a task inconceivable to rid ourselves of it. Yet something was done at the Chicago Fair in the way of burning the refuse that I could wish were universally accepted.

Still, sewers must be taken for the present as established facts, or where sewers are lacking, and they usually

are lacking in the country, the unsavory cesspool seems often the only resource. Moreover, I am bound to say that any immediate bad result from the use of cesspools is not observable, where the water supply is through pipes from an uncontaminated source. The real danger lies rather in the concurrent use of wells and cesspools, which are apt to play exchangeable parts, the pump drawing the foulness of the cesspool and the drain discharging through a roundabout course into the well, to the detriment of all concerned.

But if you have a good water supply a cesspool may be made the best of by making two cesspools, one water-tight, with cemented bottom and sides, the other for the first to overflow into, for the liquid part, that is, to overflow into and soak away.

Beside the plumbing pipes there are other pipes to be built in before plastering, hot air pipes, namely, if hot-air furnaces or indirect steam is to be used for heating. These are flattened tin pipes, of familiar appearance and in a frame house they are fastened in place in the partitions between the studs with wire. The lath over these pipes must be of iron, and the pipes must not be allowed to come too near any woodwork of studding or floors, not nearer, let us say, than three inches, and all woodwork exposed to the direct radiation from the pipe is usually covered with tin tacked on.

One of the difficulties about these pipes lies in the lack of skill or of care of local mechanics, whose part it usually is to provide the pipes and the sheet-iron case for the furnace, only the heating apparatus proper being bought from the manufacturer. Naturally the local man has little interest in getting the best results from a given furnace, even if he has the necessary skill. Sometimes the studs of the partitions will be placed flatwise and the pipe-maker will make his pipes only two inches across to suit the studs, an entirely unsuitable and inefficient shape for a pipe, which is the better the nearer it approaches a circle in section. Sometimes the pipes will be accidentally mashed from lack of inside stays or in spite of them, and will be built

into the walls in their mashed condition, although the flow of warm air is cut off by the stricture as if by a valve.

The choice of suitable heating apparatus is a difficult one: four systems at once present themselves, the regulation hot air furnace, direct steam, indirect steam and the more recent hot water heating—more recent, at least, in this part of the country, for in Canada hot water has long been in use.

Of these four each has its advantages and disadvantages, a platitudinous remark, doubtless, but always to be borne in mind in house building; the best arrangement has its faults. The hot air furnace properly used is far from being the monster that it is sometimes represented. On the contrary, it has the great merit of furnishing a continual supply of fresh air. In a compact house and where cost is an important consideration it is perhaps the best that can be adopted. The really difficult matter with hot air furnaces is the heating of distant points if the house be of too great extent or of a straggling plan; in these cases more than one furnace must be used or a different system adopted.

Long pipes or contracted pipes are as far as possible to be avoided. This consideration usually makes it necessary to put the registers at the sides of the rooms farthest from the windows. It would be better if the hot air could be admitted near the windows, but to do this requires an array of long pipes in the cellar radiating from the central furnace to the extreme boundaries of the wall, and I have known the complete failure of such a layout. Another matter that requires care is the admission of fresh air to the furnace. In calm weather the ordinary cold air conduit made of boards works well enough. The difficulty occurs when the wind blows, and the harder it blows the more trouble it gives. If the wind blows strongly against the cold air inlet it sends a cold blast from the registers which there has not been time to warm as it passed the furnace; if on the other hand the wind blows strongly in the opposite direction, so that the cold air inlet is to leeward, or even if it blow hard athwart the inlet the tend-

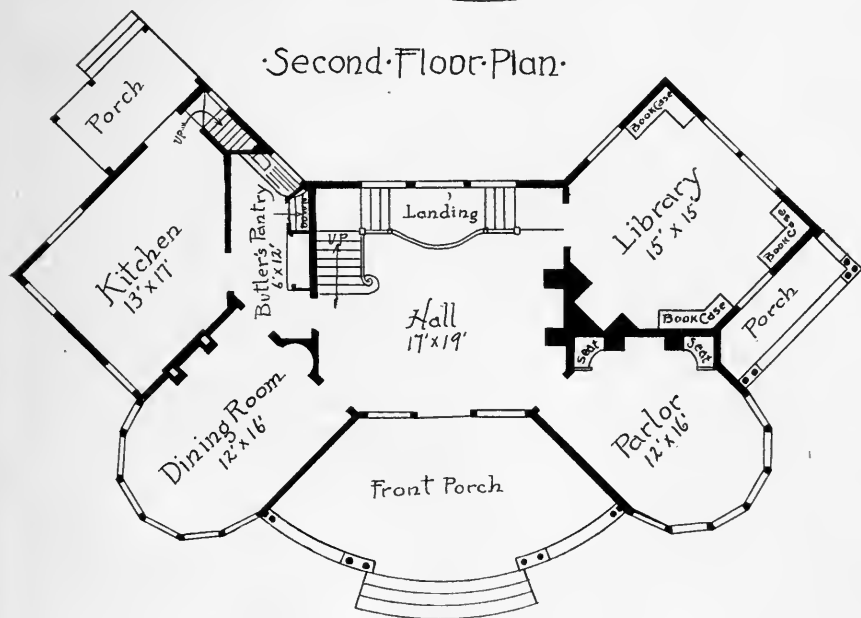
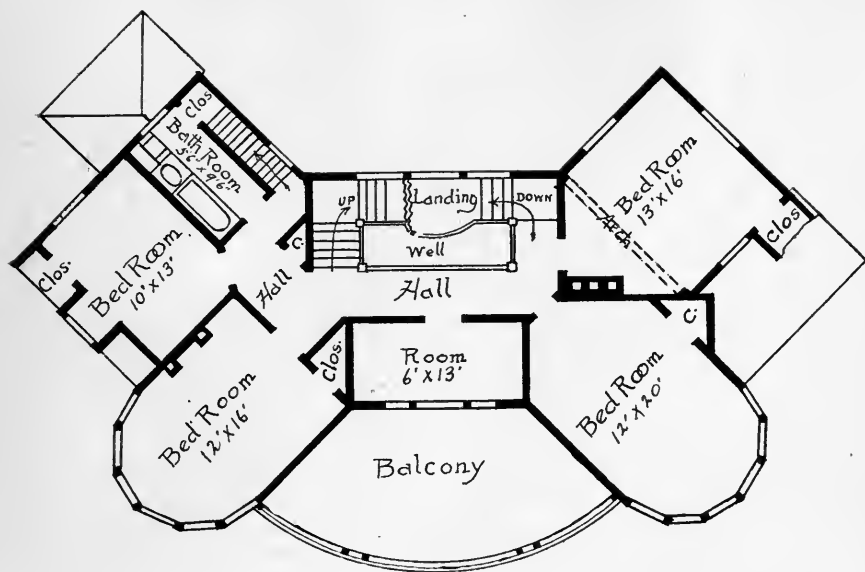


Mantelpiece by W. S. Knowles, Architect.

ency is to exhaust the air from the furnace and to prevent any from passing through the registers.

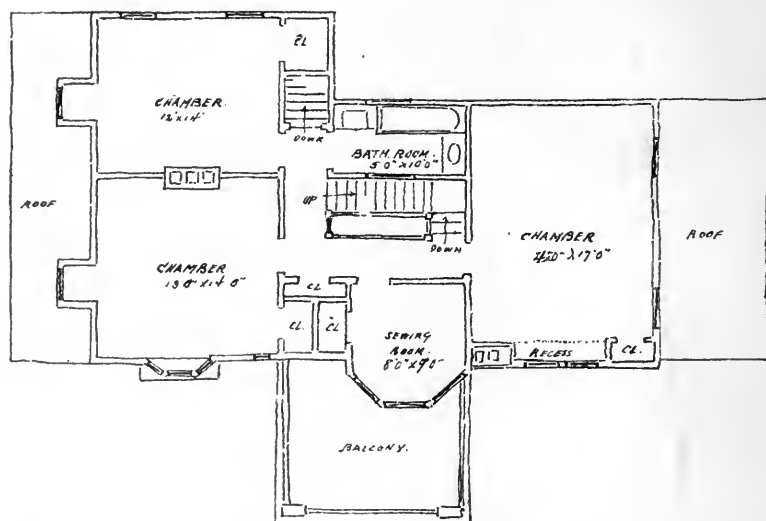
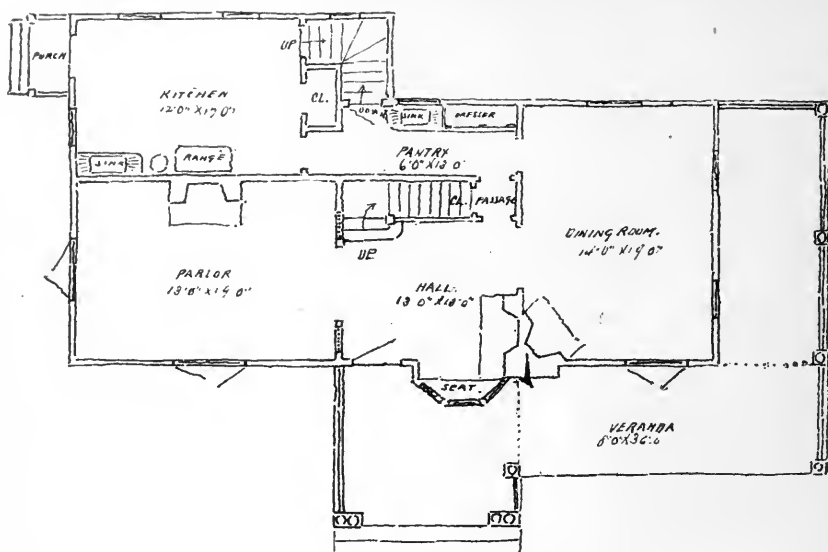
The strength of this exhaust suction is more than might be supposed. I have repeatedly seen casement windows on the leeward side, and even interior doors slammed shut when a violent gust caused the sudden expansion of the body of air in the house. The most efficacious remedy is to put the furnace in a small room by itself, separated from the rest of the cellar by brick walls and with a window of its own. This constitutes a cold air chamber in which the furnace stands and from which it draws its supply, the trouble from wind pressure reduced to almost nothing. I have also obtained good results from opening the cold air inlet under a lattice-inclosed piazza, the lattice openings being very small, so that the wind was strained through it, so to speak, and its direct force broken.

I cannot let the matter of hot-air heating pass before alluding to what



RESIDENCE.

Manly N. Cutter, Architect.



FLOOR PLANS OF RESIDENCE DESIGNED BY F. W. BEALL.

are called ventilating grates. These are made so as to warm a current of air just as a furnace does, in addition to the radiant heat that a grate naturally gives, and used in a hall fireplace one of them will temper the whole of a moderate sized house in the cooling weather of autumn.

Steam heat with radiators in the rooms is little used for dwellings, for country houses hardly at all. It seems to have more objectionable points and fewer advantages than any other system. It is of far greater first cost than a furnace; it is difficult to regulate, being apt to make the house over hot in mild weather and to decline to act when its services are really required.

Indirect steam heat, on the other hand, is a well-nigh perfect system, having all the advantages of a hot air furnace without its drawbacks; only the first cost is high, about thrice that of hot-air, or half as much again as direct steam radiation.

Hot water has many advantages. The first cost is somewhat greater than even indirect steam, but the cost of fuel is the least of any system. It is extremely manageable, being used from Canada to Florida and adaptable to all climates, simply because warm water is warm, while warm steam is not steam at all, but must be at least boiling hot. The serious defect is the lack of fresh air supply and a minor matter is the bulkiness of the radiators required.

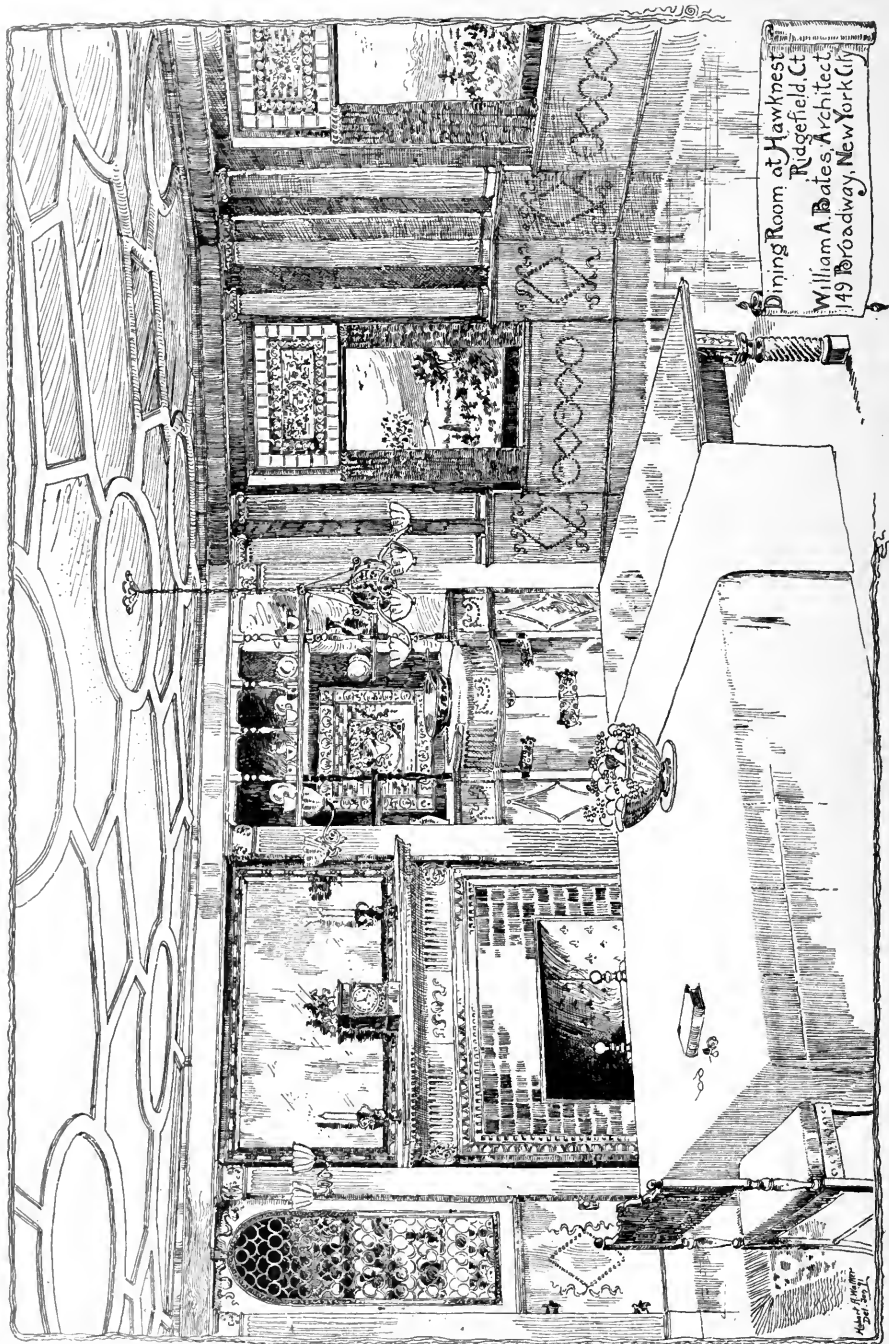
Upon the whole, I prefer a well-installed hot-air furnace, from a maker of established reputation, for ordinary country houses, the pattern being of less consequence than the excellence of the workmanship, which is best secured by dealing with makers of well-known and high standing.

All these matters of plumbing and heating being settled and the preparations made at the proper time, and many other matters, such as gas pipes, electric wires or conduits, speaking tubes and bell-work not forgotten, the plastering has covered up most of this mechanism, leaving the whole inside of our house a sheet of monotonous white, a doorless and windowless desert, clear for the work of putting on the standing finish.

This is the comprehensive term that includes the visible woodwork of the interior that is nailed in place. The borders around doors and windows, architraves they are called, the base-board around the walls at the floor, the wainscot and chair rails and picture mouldings. All of these come in the form of moulded strips from the moulding mill and are sawed off to the right lengths on the spot and nailed in place by the carpenters.

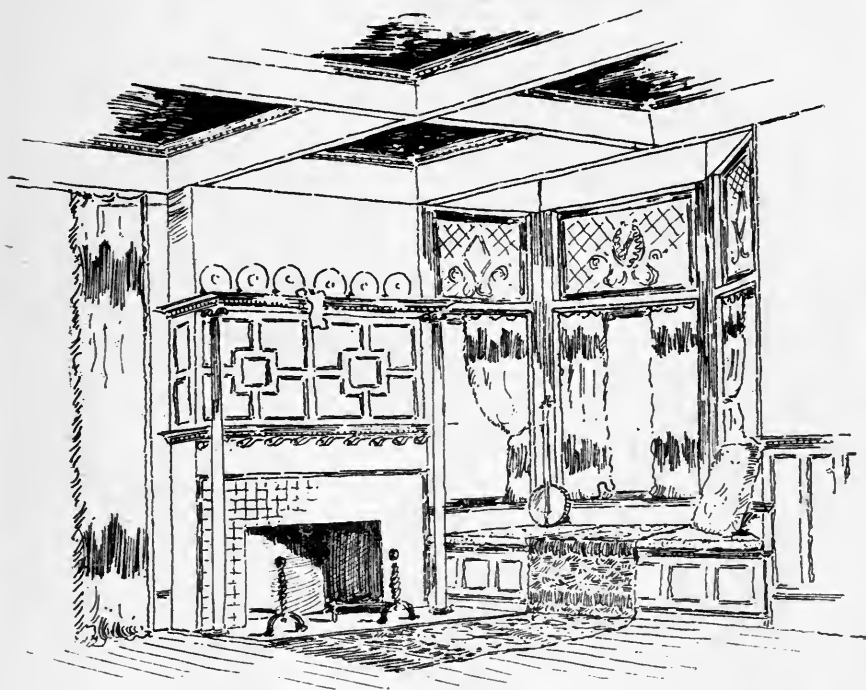
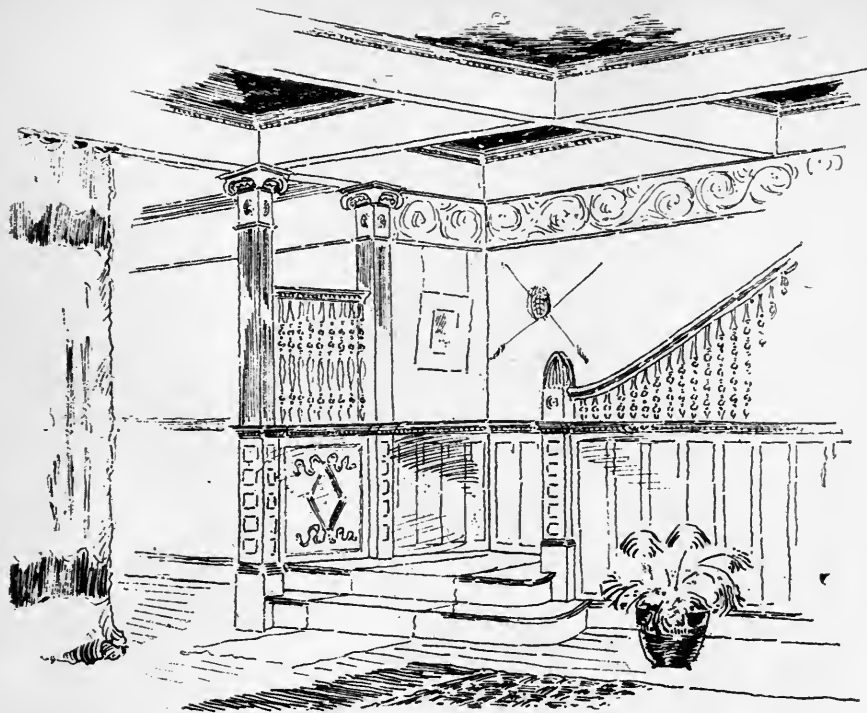
What kind of wood to use is the first question, and the first broad distinction is between a painted finish and a hardwood finish. For real beauty, that which would delight a painter's eye, choose the last by all means. But hardwood at its best suits not the prevalent taste for having everything spick-and-span, neat and new and polished. Hardwood at its best is hardwood, stout and dark with age only, not with stains, oiled, not polished, and as much improved as stonework itself by weather stains and wear. I may plead in vain, we admire and applaud the old woodwork; go and do likewise, we will not.

Of what hardwood we will have there is not so much to be said for it in preference to paint, in fact good paint is better than poor hardwood, hardwood always being taken to mean natural wood, varnished or polished, finished bright, as they say on shipboard, not taking account of its actual hardness or softness. But if paint is to be used anything is preferable to the ordinary thing, the commonplace whites and greys and grainings. Some beautiful interiors I have made by painting the woodwork of each room a different color, keeping all in the same tone, dark and rich Indian reds, deep blues and greens and strong French ochres, or softer tones of terra cotta, olive and citrine. But if bright finish—the nautical term is convenient—if bright finish is required there is a wide range to choose from. There is nothing better than oak, from the ordinary native oak, white or red, to the costly English pollard oak, and in addition to oak there is cherry of about the same cost, mahogany which is much more expensive and ash which is much



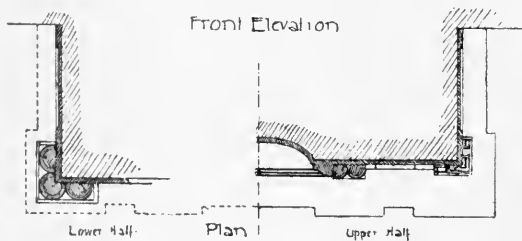
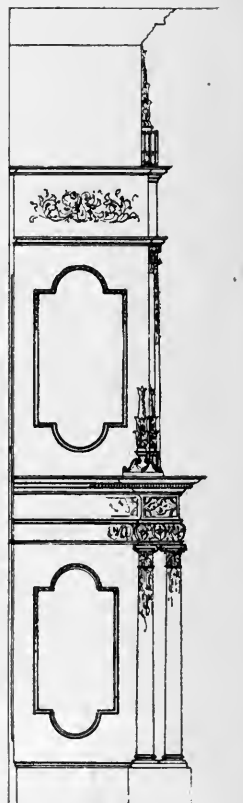
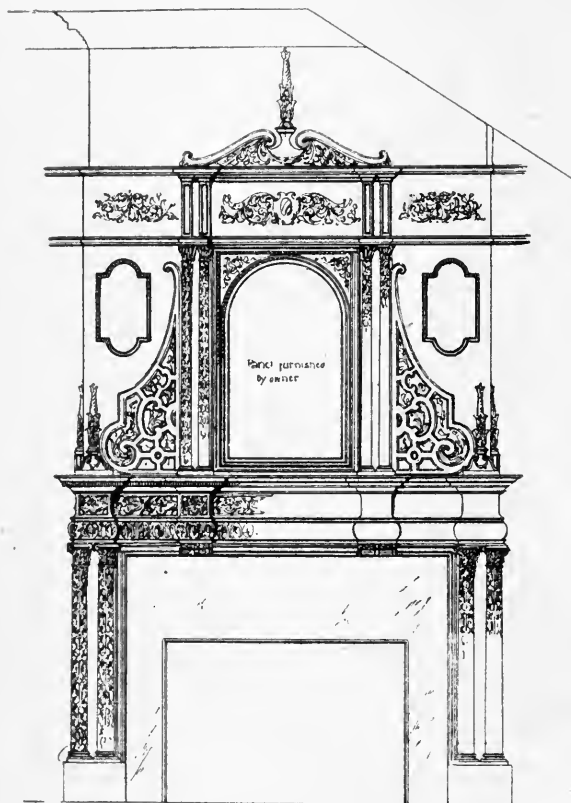
Dining Room at Hawknest,
Ridgefield, Ct.
William A. Bates, Architect.
149 Broadway, New York City.

Wm. A. Bates, Archt.
149 Broadway, N.Y.C.



INTERIORS.

F. W. Beall, Architect.



Side Elevation

Hall Mantel.
Stanley Mortimer, Esq
Roslyn, L.I.

$\frac{3}{4}$ " Scale

James Brown Lord, Architect.

cheaper and makes a very good finish, not so rich in color as oak, but with a stout and characteristic grain of its own, much to be preferred to the non-committal cherry. Formerly cherry was what it is not now; formerly cherry was red, quite red, approaching cedar; now all the red cherry is used up and there comes to market nothing but that with a faint brown cast, scarcely off the white. Almost all the cherry finish that we see is brought to the color of the cherry of the past by staining, or it is made the foundation of an imitation of mahogany itself. But for this purpose cherry is a needlessly expensive foundation, the cheap, and in many respects admirable whitewood is sufficient.

Whitewood we determine to adopt for the finish of our house throughout, staining it in soft browns and russets and yellows, not in imitation of any other wood, but simply for color effect, as we might use paint. Sometimes green and blue stains are used, not bright greens and blues, but subdued and modified, with excellent effect. The doors are somewhat upon our mind; in fact, the doors are the main reason why hardwood finish is so much more costly than painted pine. We get along well enough without greatly adding to expense if we make the mere mouldings of the standing finish of hardwood, but hardwood doors are another matter. Solid oak, solid mahogany are terms of admiration, but a solid oak door or a solid mahogany door is cheap and undesirable compared with a veneered door. In fact, in the best hardwood work all the doors are veneered. They are built first of strips of pine glued together and upon this the veneer of the wood required is placed; the mouldings are necessarily of solid oak, or whatever wood it may be. The trouble with solid hardwood doors is that they warp; it is to avoid this that the troublesome and expensive process of veneering is used. Solid hardwood doors are used to some extent for cheaper work, and as they are used only because they are cheaper are commonly seen in the cheaper woods, ash or whitewood for instance.

Moreover when people go to the ex-

pense of having veneered doors the temptation is strong to have both doors and all other woodwork polished, ending in what is called cabinet-work rather than mere carpenter-work finish.

But such expense is not usual nor reasonable for a modest country house as ours is to be. Hardwood we want for various reasons, the whimsies of fashion perhaps the strongest, and whitewood we have chosen among hardwoods. Whitewood is not so very hard, is commonly considered a soft wood, but it is much harder than pine, almost as hard as cherry, and, as the term hardwood refers really rather to the appearance of natural finish, it may as well be considered as a hardwood for the present. Indeed, as far as that goes the softest white pine makes a beautiful hardwood finish as far as appearance goes. Its natural color when varnished is a rich warm yellow, really a better color than either ash or oak.

But pine does not take stain well, the grain shows badly, so we have preferred whitewood, and we will make our doors of whitewood, too, solid, not veneered, although we know in advance that we shall have trouble with their swelling in damp weather and shrinking in dry in a maddening manner, sticking fast until they are planed off, and then leaving cracks that are open to criticism. Still, money is an object, and even cracks around doors can be tolerated when several hundred dollars are saved thereby.

Last of all come the floors, the upper floors, laid on top of the rough hemlock floors. Here again the possible variety in cost is very great, from the oak floor in narrow strips, planed and polished, to the ordinary North Carolina pine floor, the cheapest thing in the way of a floor available. But we have enlarged upon floors before and need not take them up again now.

There is another matter that deserves more than a passing word; it is the question of hardware. In this, as in plumbing, there is a wide field for choice in the numberless patterns by each of a dozen different makers, all good and all bending their energies to bringing out something new every day.

Certain general considerations are



RESIDENCE.

Manly N. Cutter, Architect.

all that we can lay down. In the matter of locks, for instance, the most important and intricate mechanical device about house hardware, few care to investigate their complicated interiors. It is rarely worth while to put very elaborate locks on the interior doors of a private house. For protection from possible night intruders bolts will serve far better, being stronger and quite unpickable as all but the most costly locks are. It is an excellent plan if burglars are feared, and we live in fear most of us—it is an excellent plan to put bolts on all the doors so that the householder, bolting them one by one behind him at night makes the progress of the burglar beyond the room where he may enter very much more difficult. For the locks themselves I should advise the simplest mechanism, one tumbler locks they call them, but the works of them should be of malleable, not cast, iron, and the brass bolt ends should be cast upon the stems, not rivetted to them. For the main entrance door, on the other hand, and very likely for the service entrance also, I should recom-

mend the strongest, most elaborate and costly lock obtainable, within the limits of reasonable compatibility with the surroundings, one of the flat key locks with a cylinder full of tumblers, of which the Yale lock was the first and is probably still the best. These are beyond the power of any but an expert bank burglar to pick and can be obtained of considerable strength, an important matter when a house is left empty, and the door where the last one leaves must depend upon its lock alone against attack.

Of less importance, but more interest, are the ornamental parts, the knobs and key plates about the lock—furniture in architects' talk.

There are many kinds of knobs to be had, bronze, porcelain, wood, and in some places hemacite, made of compressed sawdust and coagulated blood, is used; but either porcelain or bronze is the usual choice, although wooden knobs are much used.

Of bronze there are two kinds, the solid cast bronze, and the thin sheet bronze, spun bronze it is called, the first very good and very costly, the sec-

and not good for much as they are easily dented by accidental knocks in moving furniture, but much less expensive than the solid. Recently spun bronze has been made, filled up inside with typemetal or something of the sort, which I should think might be a good thing.

There is, too, in the market a gaudy material called electro-plate. Hinges and all sorts of hardware, but not knobs, are made of this, iron it is underneath, polished bronze to the eye. Porcelain knobs are either white or black, or the despised mottled brown called mineral, though the last, I fancy, is most grateful to the artist's eye. Still, so deep is the stigma upon mineral knobs that there is scarcely an architect that would dare to use them outside of kitchens and "offices." But there might be made, very likely there is made somewhere, a porcelain knob of a softer brown mottling or even of blue or green or red, such as is done in glazed tiles, which everybody would prefer to the staring white or black spots, and even an artist might admit was better than "mineral." Wooden knobs are beautiful, on the whole to be preferred, and solid bronze shanks, roses and escutcheons with them. There is a kind of finish for which I confess a fondness called "Boston finish" or "Tucker bronze." It is really iron japanned with a peculiar brownish greenish japan, and when well done has a fine rich color, more like weathered bronze and free from the flashiness of polished metal.

Have the hinges—buts they are called, that is to say butt-hinges, because they are screwed on the edge or butt of the door, and not on the face of it as the old hinges were—have

them "loose butts" so that you can lift the doors off when necessary, "loose pin butts" are more convenient for heavy doors, but unless of the best steel bushed kind are apt to give trouble.

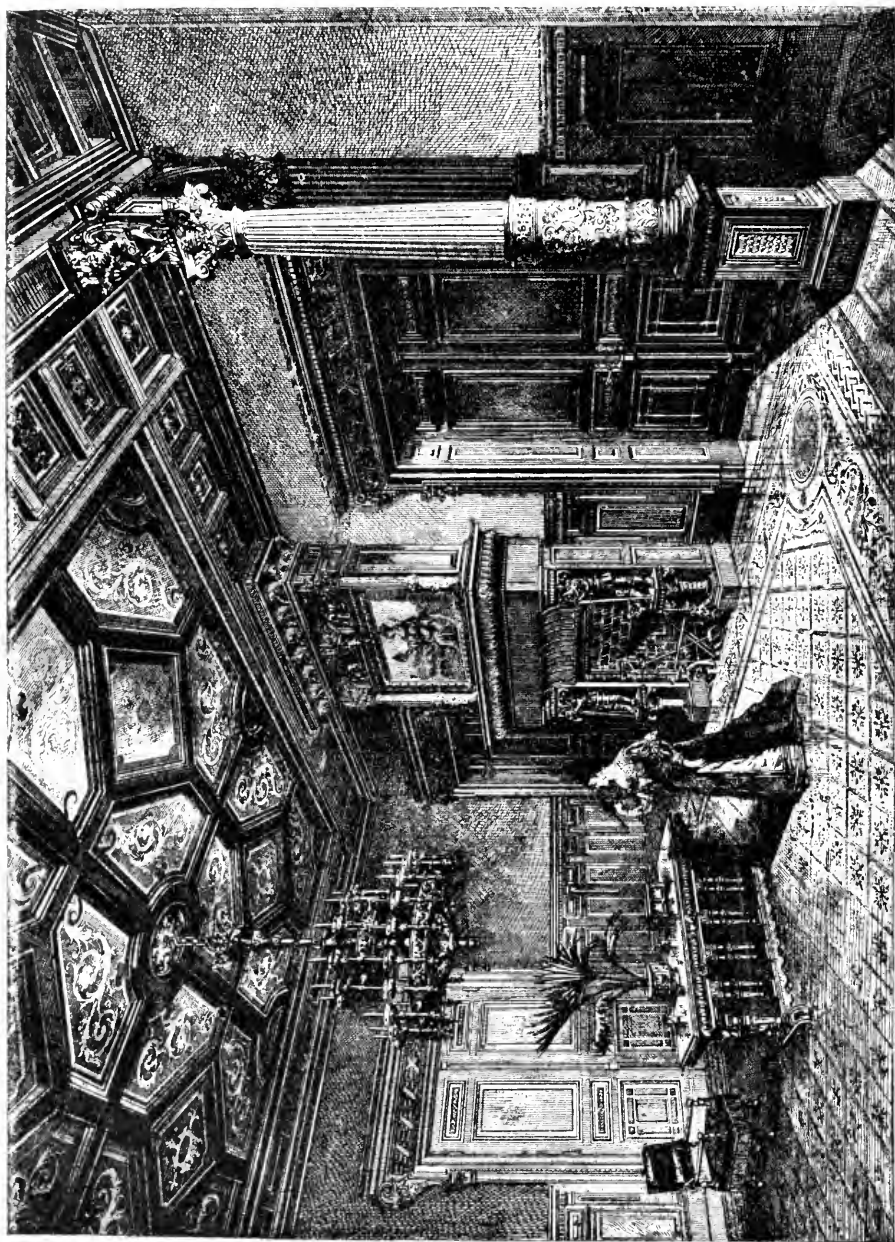
After all your trouble in selecting nice hardware, see to it that the painter does not spoil its appearance by careless daubs of paint. It requires care to paint around hardware without encroaching upon it in the least, but a skillful painter can do more difficult things than that if he tries.

As for the painting itself the only way is to get a good painter. The "art," for we use too little the good old word "art" for handicraft, is really too much an art of hand and brain even for house painting, to make it possible to get a good job by the closest specification. What, for example, has "Atlantic or Union white lead and pure linseed oil" to do with putting on a coat that will cover completely and neither shine in blotches nor gather in drops and ridges. The hardwood we will finish with a varnish of some kind, "hard oil finish" is cheap and good enough for a bright varnished finish of an inexpensive country house.

For more expensive work, where the doors are all veneered, the finish is polished, a very much more expensive way. In this substantially the same materials are used, shellac and varnish and filler, but each coat or at least some of the coats are rubbed with fine pumice stone before the next coat is applied.

With the completion of the painting and varnishing and the subsequent scrubbing of floors and cleaning of windows our house proper is done, save what supererogatory decoration we may lavish upon it.

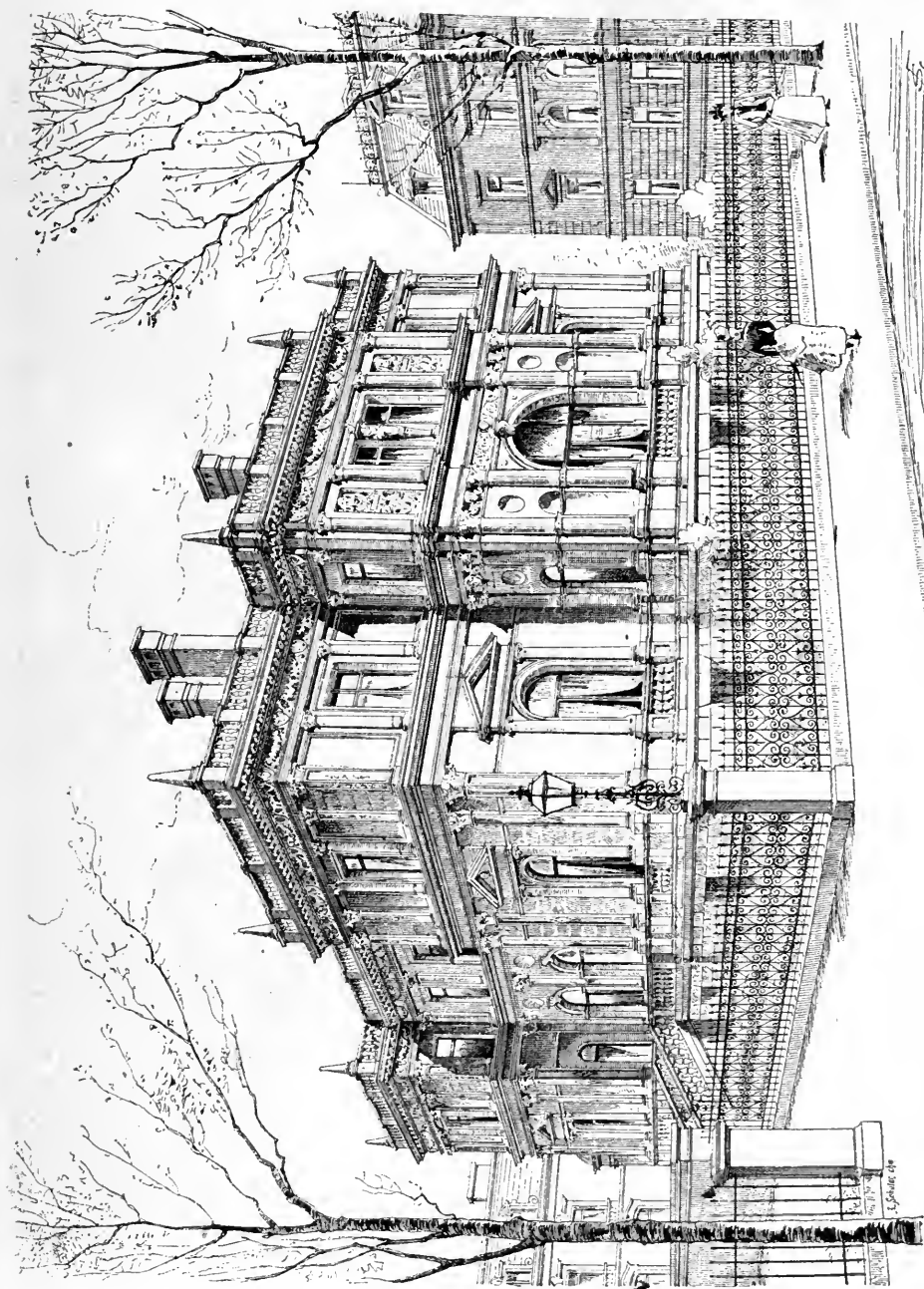
John Beverley Robinson.



St. Germain-en-Laye.

HALL IN CHATEAU ST. LÉGER.

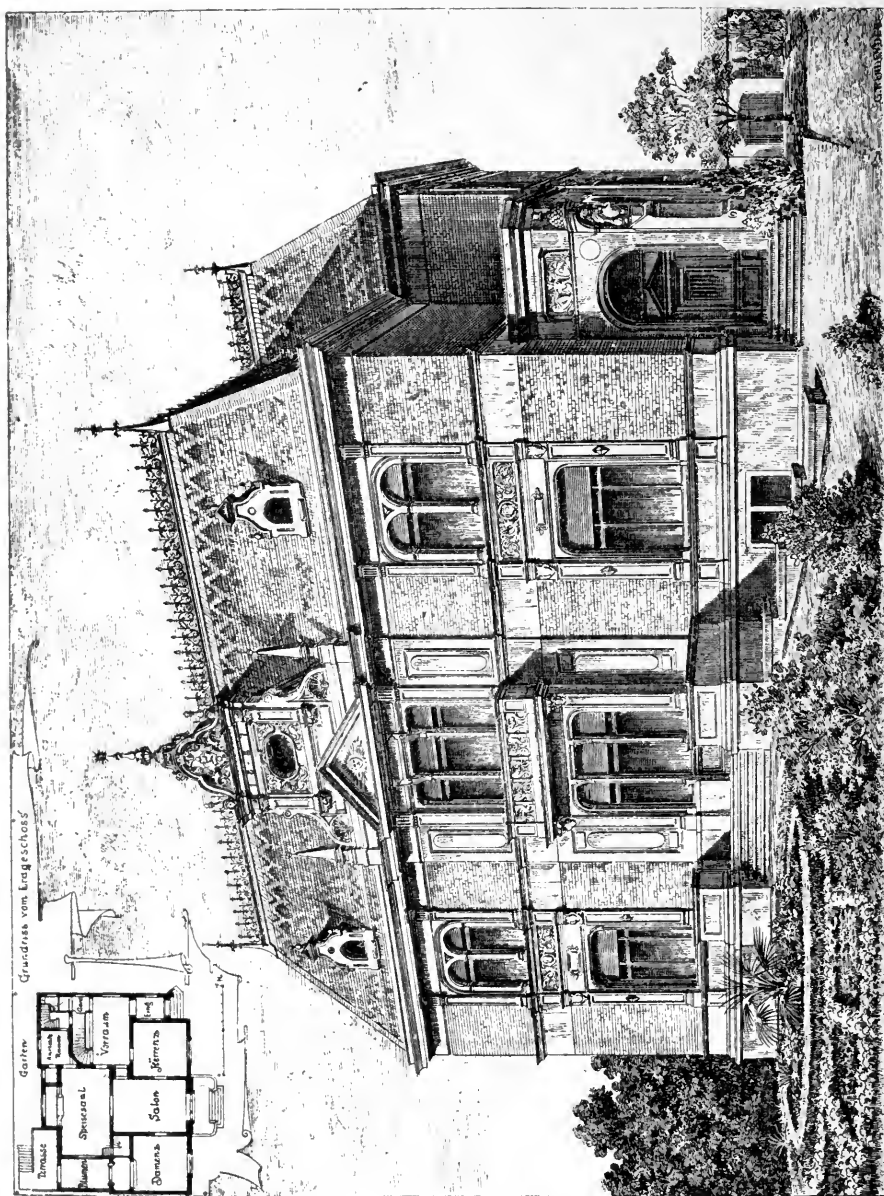
Léon Carle, Architect.



Munich, Germany.

RESIDENCE.

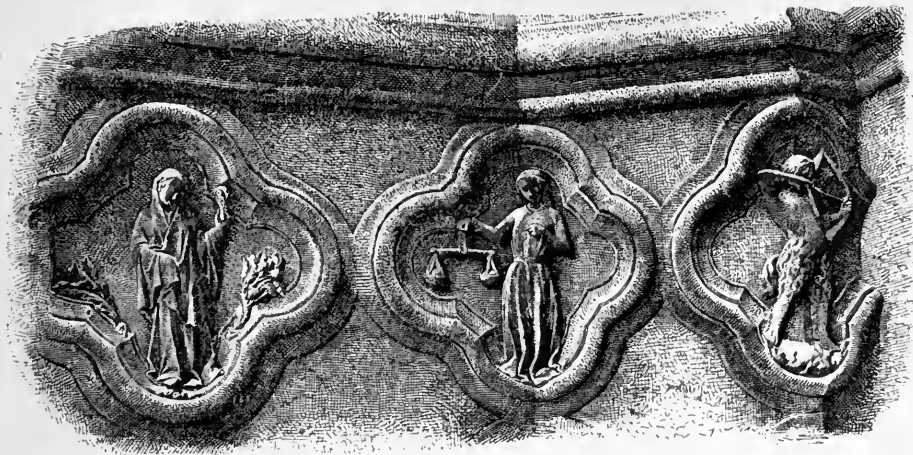
Albert Schwartz, Architect.



Berlin Germany

VILLA,

Cremer & Wolfenstein, Architects,



FRENCH CATHEDRALS.

Part IV.

CHRONOLOGICAL SUMMARY.

I.



IN the accompanying tables an attempt has been made to arrange in a condensed form a chronological history of all the cathedral churches of France. It not only undertakes to tell what part of each edifice was built in each century, but it also shows the more important structural events connected with each building. It thus includes a record of parts that no longer exist, but which form an integral and invaluable portion of the life history of every church. The record begins with the eleventh century, save in the case of such cathedrals as were built prior to that time and which have survived to the present day. These buildings are few in number. The ravages of the barbarians, the Huns pressing in from the East, the Normans coming down from the North, and the Saracens from the South combined, with the insufficient methods of construction, to remove almost every church and every edifice of any sort well before the tenth century. The early histories of the

cathedrals are filled with legends of buildings and rebuildings, epochs of decay and of destruction, often many times repeated, but of these almost legendary structures scarce anything has survived. And so, because the records of these early buildings are incomplete, because the facts in themselves are of small value and are without any bearing on the present edifices, all reference to them has been omitted, save where actual remains have survived. As the eleventh century marks the beginnings of the building era that culminated in the thirteenth, and as the life history of nearly every cathedral may be accurately dated from that time onward, it affords a convenient and decisive epoch from which to begin our histories.

The tables, as has been said, comprise a chronological summary of all the cathedral churches of France. It thus includes :

(1). All the present cathedrals of France.

(2). All churches which have had the rank of cathedral at any time in their history, but which are not now cathe-

dral in the proper ecclesiastical sense of the word.

(3). All churches once cathedral, now destroyed or in ruins, but including only those dating from the eleventh century or later.

(4). Temporary cathedrals.

(5). Churches which replaced former cathedrals, to which they are, in a sense, successors, but which never themselves had that rank.

It needs but a glance for the reader to grasp the fact that the number of churches given in these pages far exceeds the number of cities, and is thus greatly in excess of the number of sees. These, it should be premised, are based upon the exhaustive *Series Episcoporum* of Gams.* This list includes all the episcopal sees actually established in France, but it does not include the bishopric of Bourg, which existed for a few years only, and which has been included in the tables. On the other hand no notice is taken of many primitive sees existing before the eleventh century and which have not survived to later times. Thus the primitive see of Noyon is not mentioned, though it is known to have been located at Vermand, the identity of which is sometimes given as the city of S. Quentin, sometimes as a small village near that city. And it should be further noted that the cathedrals described here are those of France proper alone; the cathedrals of Corsica and the outlying possessions of France, whose bishops form part of the French hierarchy, are omitted. Nor is any mention made of the bishopric of Bethlehem (French *Bethléem*), that most singular of all episcopal sees, a bishop without land or people or church, that found refuge in Clamecy, a small village of the Nivernais, after expulsion from the Holy Land, and where a whole series of bishops succeeded each other until 1778.

The large number of edifices listed as cathedrals arises from several causes. In many cities the primitive cathedral was succeeded by a later building with a different name, and frequently on a different site. Even where these build-

ings have not survived to the eleventh century their names have been included, because this change of name and of location is an interesting fact in the history of the later building, whose history, indeed, would be incomplete without some reference to it. A number of cities had, further, two actual cathedrals at one and the same time, or rather two cathedral churches each with the rank of cathedral, each having its own body of canons and its individual chapter, but with a single bishop. Such was the case with Besançon, Toulouse, S. Lizier, or, to call it by its ancient Episcopal name, Conserans, and Autun. The cathedral of S. Dié comprises two churches, S. Dié and Notre Dame, connected by a cloister. More striking was the case of the cities of Sisteron and Forcalquier, in which the church of the latter city was recognized as co-cathedral with the mother cathedral of Sisteron, having, in 1061, been given a provost and chapter of its own by Bishop Gérard Caprerijs of Sisteron. In all these cities one church finally became sole cathedral. In Besançon the cathedral of S. Étienne was destroyed in 1674, leaving S. Jean sole cathedral; in S. Lizier the cathedral of S. Marie de la Sède lost its rank of cathedral in 1667, after which date the church of S. Lizier became sole cathedral; the church of S. Jacques of Toulouse is not mentioned as cathedral in a charter of Louis VII., and the supremacy of the cathedral of S. Étienne is therefore dated from that time; in Autun, S. Nazaire ceased to be cathedral jointly with S. Lazare in 1770, and eight years later was demolished, save a single chapel. No one generally applicable reason for such double cathedrals appears to be known. In the case of S. Lizier, however, M. Jules de Lahondès has suggested, and with much apparent probability, that it may have had its origin in the time when the town was divided into two seigniorial districts, in one of which the bishop was lord under vassalage to the Count of Toulouse, and in the other he was absolute lord with the Count of Comminges as his vassal.

A more notable cause in adding to the number of cathedrals is the ruin

* P. P. B. Gams; *Series Episcoporum Ecclesiæ Catholicæ*. Ratisbon, 1873.

and decay produced by the progress of time. While only those cathedrals that, in rebuilding, have changed their names or sites, or both, are separately chronicled in the tables, nearly every cathedral in France has been rebuilt several times; so that the present church is in many instances the fourth or fifth. But as the larger part of this rebuilding occurred before the tenth century, for each successive inroad of such barbarian horde was marked by ruin and desolation, we are only concerned with later changes. A goodly list of cities show two cathedrals because the older had fallen into ruins. Thus the abbey church of S. Caprais became cathedral of Agen in place of S. Étienne, destroyed in the Revolution. The cathedral of Notre Dame of Alet was abandoned after Protestant injuries in the sixteenth century, and the refectory of the abbey of S. Benoît became the cathedral in its place. The cities of Arras and of Cambrai both lost their mediæval cathedrals in the Revolution, and when the sees were re-established with the Concordat other churches were taken for this purpose. Three cathedrals at three different epochs succeeded the primitive cathedral of Carpentras, each rebuilding—an unusual instance—being accompanied with a change of name. Huguenot injuries, which occasioned much injury and harm throughout the whole of France, and was the immediate cause of a vast amount of rebuilding and repair, led to the abandonment of the old cathedral of Notre Dame du Bourg in Digne in favor of the church of S. Jérôme, though the older cathedral is still used on certain feast days. The Revolution, which, like the Protestant injuries, occasioned so many changes in the churches of France, put the first cathedral of Dijon, S. Étienne, to the use of a storehouse, after which it was not used again for sacred purposes, the abbey church of S. Bénigne becoming cathedral in 1801. The co-cathedral of S. Mary of Forcalquier was injured in a siege in the fifteenth century, and the church of Notre Dame became cathedral in 1486. The cathedral of L'Assomption of Nice might be bracketed with this, having been destroyed

in 1530, when the citadel of the city was enlarged, and the cathedral of S. Réparate was built in the lower town. The cathedral of S. Martin, of Montauban, was demolished by the Huguenots in the sixteenth century, and after using the church of S. Jacques temporarily, the present cathedral of Notre Dame was completed in 1739. The cathedrals of Rennes and of Riez fell several times into decay and were as often rebuilt. The old cathedral of Pamiers was destroyed in the fifteenth century, as was also the later cathedral of S. Antonin, which was rebuilt in the seventeenth century.

Several new cathedrals were built or made—a somewhat awkward expression that may be used to designate churches not originally built as cathedrals, but afterwards given this rank—because the locality of the first cathedral was deserted by the inhabitants for a more desirable quarter. The older part of the city of Aix, called the *Villes des Tours*, had fallen into such a state of decay from the Saracen invasions that in the eleventh century the cathedral of Notre Dame de la Sède ceased to be cathedral, and the episcopal chair was transferred to the church of La Transfiguration du Sauveur, popularly called S. Sauveur. Similarly with Carcassone, where the lower city began to be settled about the middle of the thirteenth century, and grew so rapidly that when the Concordat was made in the present century the church of S. Michel in the Ville Basse was made cathedral in place of the ancient cathedral of S. Nazaire in the Cité.

Closely allied to these are sees and churches transferred from one city to another through the decay of the earlier one. Thus the city of Glandèves was abandoned for the neighboring town of Entrevaux, in the fourteenth century, where the canons first established themselves in the church of S. Martin, abandoning this, in its turn, for the new cathedral of L'Assomption, begun in 1610. In a similar manner the city of S. Lizier finally absorbed the city of Conserans, but the two churches of S. Lizier and of S. Marie de la Sède were joint cathedrals until 1667. These instances are rather examples of the

transformation or growth of a city than deliberate transference of the episcopal see, as happened when the see of Eauze was transferred to Auch in the seventh century; as happened again when the see of Aleth was transferred to S. Malo in 1163, when the see of Antibes was transferred to Grasse in 1244; that of Maguelone to Montpellier in 1527; that of Elne to Perpignan in 1662; that of Maillezais to La Rochelle in 1648. The see of Boulogne-sur-Mer succeeded the see of Thérouanne in 1556, after the total destruction of the former city by Charles V. in 1553. The see of Toul was united to that of Nancy in 1801, and the bishop of that city is now styled the bishop of Nancy and Toul. All these changes were due to the increased importance of the latter cities in later times.

While all the cathedrals show periods of rebuilding and of destruction of former edifices, the older cathedral has, in a few instances, remained until the present time. Thus the famous ancient church, known as the Basse Œuvre of Beauvais, ceased to be the cathedral of that city in the thirteenth century. The church of S. Étienne, destroyed in the Revolution, was the cathedral of Lyons until the thirteenth century, though the present cathedral of S. Jean, originally the baptistery of S. Étienne, was begun in the twelfth. The religious enthusiasm of the present century has given a new cathedral to Marseilles in place of the old and insignificant cathedral of La Major. In Périgueux the abbey church of S. Front was made cathedral in 1669 in place of S. Étienne, which is still standing. The need of a new and larger cathedral for the city of Grenoble resulted in the erection of the cathedral of Notre Dame in the eleventh and twelfth centuries, and which was structurally connected with the older cathedral of S. Hugues, a portion of which still remains.

Another series of churches, whose histories are briefly summarized in the following pages, are those which succeeded, on the same site, to early cathedrals, though never themselves, so far as the existing or later structure is concerned, having had episcopal rank. These include the church of S. Acheul,

in Amiens, which succeeded the primitive cathedral of Notre Dame des Martyrs; the church of S. Aphrodise of Béziers, cathedral to the middle of the eighth century; the modern church of S. Vincent at Dax occupies the site of the primitive cathedral of that city (cathedral to the eleventh century); the church of S. Étienne at Orleans, destroyed in 1562, was a survival of the primitive cathedral (to the fourth century); at Reims the chapel of S. Pierre, in which worship was discontinued in 1710 and which was finally removed in the present century, stood upon the site of the primitive cathedral (to the fourth century); in Verdun the primitive cathedral of S. Pierre et S. Paul, cathedral to the fifth century, was succeeded by the abbey of S. Vannes, whose church was removed as recently as 1817.

Pro-cathedrals, or churches used temporarily while a new cathedral was rebuilding, include those of Arras, Bourg, Marseilles, La Rochelle, Le Mans, Montauban and Rennes.

II.

Closely connected with the duplication of episcopal churches in the same city is the question of name. This, as has been explained, adds considerably to the bulk of our list. Yet the questions it raises are more interesting than this. There is comparatively little variety in the dedicatory names given to the cathedrals of France. The greater part of them are in honor of Notre Dame, and when this designation and that of S. Étienne are set to one side there are relatively few other names to be noted. Differences in name does not imply a difference in cathedral, for in many instances the same church has had various names at various times in its history. Thus the cathedral of Amiens was first called Notre Dame des Martyrs. This was built on a different site from the present cathedral, and has survived, as has been said, in the present church of S. Acheul, in the environs of Amiens. But the present cathedral was first dedicated to S. Pierre et S. Paul; in 1159 it was dedicated afresh to Notre

Dame et S. Firmin; and again, in 1483, to Notre Seigneur, S. Vierge et Tous les Saints, a fact probably forgotten by most of those who know it exclusively as Notre Dame. The cathedral of Séez was first dedicated to Notre Dame. In the sixth century it was known as S. Gervais et S. Protais, but in 1786 it was placed under the patronage of Notre Dame. A more striking instance is supplied by the cathedral of Valence, primitively dedicated to S. Apollinaire et S. Cyprien; a second cathedral was dedicated by Pope Urban II. in 1005 to the B. V. Marie et S. Corneille et S. Cyprien, and yet, although the name was excluded from this dedication, S. Apollinaire has always been recognized as the chief patron of the cathedral, which is now known solely by his name. Less complicated instances are furnished by the cathedral of S. Trophime at Arles, called S. Étienne to 1152; by the cathedral of Notre Dame de Grâce of Clermont-Ferrand, primitively called Notre Dame et S. Laurent; by the cathedral of S. Julien of Le Mans, called Notre Dame et S. Pierre to the ninth century, then S. Gervais et S. Protais, and, in 1120, B. V. Marie, S. Gervais et S. Protais et S. Julien; by the cathedral of Notre Dame de Pomeriis (French *des Pommiers*) or Notre Dame hors-la-ville, of Sisteron, called Notre Dame et S. Thyrsé to 1343; and by the cathedral of S. Gatien of Tours, called S. Maurice to the fourteenth century. In some of these instances, notably in the case of Arles and of Tours, the change in name was brought about by the increased importance given to the worship of the saint in whose honor the later dedication was made. In the case of the cathedral of Sisteron the addition of S. Thyrsé to the title doubtless arose from the fact that the preceding cathedral had been dedicated solely to this saint, and it was probably found convenient to drop the name at a later time. Although the cathedral of Besançon is now called only the cathedral of S. Jean l'Évangéliste, the proper title is S. Jean l'Évangéliste et S. Étienne, the title of the sister cathedral having been merged with that of the survivor.

And, indeed, we frequently find instances where the popularity of one saint has so overshadowed that of the other or others to which it has been dedicated that even the name of Notre Dame has been allowed to disappear. The cathedral of S. Flour is an interesting illustration. Though now known wholly as the cathedral of S. Flour in the city of that name, it was dedicated in 1466, as an inscription on the façade tells us, "to the Honor of God, of S. Peter, Apostle, and of S. Flour, Confessor." The cathedral of S. Dié, once called S. Maurice et Notre Dame, was dedicated to S. Dié in 1051. Originally it is said to have been dedicated to SS. Maurice, Exupère, Candide et Leurs Compagnons. The adjoining church of Notre Dame, connected with the cathedral of S. Dié by a common cloister, was, in the seventh century, dedicated "en l'honneur de la Mère de Dieu, des Apôtres Pierre et Paul et de leurs compagnons, des SS. Euchaïre, Materne, Maximin et de tous leurs compagnons."

The influence of popular will in affecting the change of name has no more singular illustration than is supplied by the co-cathedral of Forcalquier. The first co-cathedral of that city was called S. Mary, though it had been primitively called Notre Dame. When the church of Notre Dame was made co-cathedral in 1486 it was popularly called Notre Dame du Marché, or Notre Dame du Puits. But after assuming its new rank the people insisted upon calling it S. Mary, while the former co-cathedral of S. Mary was then called Notre Dame, both churches exchanging titles in obedience to popular caprice. Another interesting example is the cathedral of La Major of Marseilles. The first title of this church is said to have been S. Lazare. But S. Lazarus was the first bishop of Marseilles, at least so tradition says. This at once brings us up before two contradictory facts, of which only one can be true. If S. Lazarus was the first bishop of Marseilles, he could not have dedicated a church to himself; though an oratory or chapel, in those distant times, might readily have been known as S. Lazarus's with-

out having been dedicated to him. But certainly no chapel or cathedral could have been used by S. Lazarus himself that bore his own name. The dedication of L'Assomption, said to have been given to the cathedral later, seems much more likely to have been the first name.

As for the name of La Major it was doubtless a survival of the Latin *Ecclesia major*, with which words the church was often described. The present cathedral of Lyons, S. Jean, was originally the baptistery of the older cathedral of S. Étienne, and with which it was connected by a common cloister, which joined the adjacent church of S. Croix, making a group of three. In the middle ages, even after the thirteenth century, the church of S. Jean was always spoken of and referred to as the *major ecclesia Lugdunensis*, "the great church of Lyons." These words were never applied to the church of S. Étienne even when it was cathedral, but were only used to describe the church of S. Jean, which before it became the cathedral in the thirteenth century was the largest church of the city.

III.

No room can be given in this summary to debatable questions, whose number is almost without end. The limits of space forbid the consideration of any of these points until we can take up the individual histories of the cathedrals. In instances of doubt the most probable date has been chosen and no regard given to problematical considerations. The tables are intended only as a brief general record. Detailed chronological tables of the cathedrals of Reims or of Chartres or of Paris and of many other great churches would comprise several printed pages each, were every item included. Nothing of this sort has been attempted in the following pages, where the utmost condensation has been employed. The exigencies of a magazine will not permit the discussion of authorities or the giving of references, and the works consulted in the preparation of these tables are therefore grouped together in a general list.

In order that the purpose of the Chronological Table may be made perfectly clear let us briefly run through the history of one cathedral as illustrated in it, and which may be taken as an index of the entire list. Under Reims we find, first, S. Pierre, the primitive cathedral, whose date is so remote as to be impossible of authentication. Absolutely nothing is known of this church, or oratory, as it probably was. A church that is said to have been built on its site was used for worship up to 1710. Later it fell into ruin, and was finally removed in 1793.

Next is the church of the Saints Apôtres, cathedral from 314 to 401; at least, such are the dates claimed for it. This was succeeded by the collegiate church of S. Symphorien, of whose architectural history nothing is known. It existed in 1793 but no vestige of it remains to-day.

Of the present cathedral of Notre Dame our record begins with a rebuilding in the ninth century. In 1211 it was burned, and the next year the present edifice was begun. It was consecrated in 1242 and the building almost completed in the thirteenth century. In the fourteenth century the first three bays of the nave were added and by 1381 the western façade was completed to the King's Gallery. The nave chapels were added in the fourteenth century. In 1428 the western towers were completed, or rather reached their present height. The cathedral suffered from fire in 1481, the transept tower spires and the balustrade around the roof being destroyed. Sundry repairs were forthwith made. In the sixteenth century the word "Restorations" suggests the Protestant injuries, which are known to have affected almost all the churches of France. Internal repairs were made between 1538 and 1574. In the seventeenth century the west portal and rose window were repaired. Between 1742 and 1785 many internal changes were made, and under the guise of restoration incalculable harm was done to the beautiful mediæval interior and its priceless art. In the present century the cathedral has been completely restored by the architects Arveuf,

Viollet-le-Duc, Millet, Ruprich-Robert and Darcy. The most noticeable external change has been the rebuilding of the balustrade.

It is the history of a great church in outline only; but it may help to fix certain facts upon the memory that will be useful in more extended study.

Barr Ferree.

EXPLANATION OF THE TABLES.

Names of cities are printed in **bold-faced type**; where there has been a change of name the earlier name of the city is printed in similar type and inclosed in a parenthesis.

The dedicatory title of the cathedral follows the name of the city. Where there have been several titles to the same church they are sometimes designated in chronological order, as (1), (2), (3). The French form of the names have been retained throughout as seeming likely to be of more value to travelers and students than the Anglicized form. Where a popular name of a cathedral differs from its full title the popular name is printed first, the full title following next in parenthesis.

The figures following the name of the cathedral, if within the parenthesis, indicate that that name was used until that date, when the present title was substituted for it. Figures outside a parenthesis indicate the dates at which each church had the rank of cathedral. As we are not concerned with cathedrals earlier than the eleventh century no record is made of the time at which sees then established began. Dates of foundations of sees are only given when later than the eleventh century.

In a few instances where constructions may be indifferently referred to two successive centuries the vertical lines are broken and the portion referred to printed across both columns.

Words in *italic* indicate that only those portions of the cathedrals, of the work done in the century in which they are to be found, have survived to the present time. The rebuildings of one century frequently destroyed those of a

preceding century while still leaving a portion of the earlier work.

Important and apparently authentic dates have been inserted wherever possible, but these dates only refer to such parts as are named before the next following semi-colon or period. In other words, if a date begins a column it does not indicate that everything in that paragraph was done or happened at that time. The table aims only in showing the work accomplished in each century, or the principle events happening in it; it is, therefore, unsatisfactory in failing to distinguish between work done at the beginning of a century and that done at the end, which, in most instances, shows great variety and difference.

Injury, desecration and ruin were so characteristic of the Protestant and Revolutionary epochs in the sixteenth and the eighteenth centuries that, to avoid overcrowding, all reference to such happenings are omitted save when a church was ruined or partly destroyed. Careful readers of the tables will note that the words "rebuilding" or "repairs" in the sixteenth century usually indicates a destruction during the Protestant period. To complete the record "injury" should be inserted in the columns of the sixteenth and eighteenth centuries in nearly every instance.

The word chapel is used in a general sense as applicable to any structural chapel (that is, not simple altars or recesses within the cathedral). The words Lady Chapel are applied to the central apse chapel, usually dedicated to Notre Dame and usually called so in France, though more generally known as the Lady Chapel in England.

	XI CENTURY	XII CENTURY	XIII CENTURY	XIV CENTURY
Agde. S. Étienne. To 1801.	.....	Chiefly.	Cloister.	.....
Agen. S. Étienne. To 1793.	Restored.	.....	Rebuilt, not completed.	.....
S. Étienne. From 1803 (S. Caprais to 1803).	.....	Transept and 2 chapels.	Apse; transept triforium and vaults.	Last bay nave; W. portal retouched.
Aire-sur-l'Adour. Notre Dame.	.....	Choir; transept; <i>apse chapels</i>.	.....	Nave.
Aix. Notre Dame de la Seds (de Sede). To end XI century.	.....	.....	.....	.....
S. Sauveur (La Transfiguration).	1080 new church begun; <i>s. aisle</i> ; cloister.	1103 consecrated.	1285 apse; choir; transepts.	Continued; 1323 tower.
Alais. S. Jean Baptiste. 1694-1801.	<i>Fragments in façade.</i>		.....	.....
Albi. S. Cécile. (S. Cécile et S. Croix.)	No documents before X century; many gifts X, XI, XII centuries prove existence of cathedral.	.....	1282 begun; chiefly foundations.	Nave done; part tower.
Alet. Notre Dame. 1318-1577.	1018 rebuilt.	Some work done.	.....	Apse; upper part tower.
S. Benoît. 1577-1801 (originally Refectory of Abbey).	Built.	Continued.	.....	.....
Aleth. See S. Servan.	.....	.....	.....	.....
Amiens. Notre Dame des Martyrs (now S. Acheul) primitive cathedral.	.....	.....	.....	.....
Notre Dame, (1) S. Pierre et S. Paul; (2) Notre Dame et S. Firmin; (3) Notre Seigneur, la S. Vierge et Tous les Saints (in 1483).	Burned; 1019 repaired.	1107 burned; rebuilt; 1159 dedicated.	1218 destroyed; 1220 present church begun; 1288 practically done.	Chapels.
Angers. S. Maurice (primitively Notre Dame).	1030 dedication; <i>lower part nave walls, small buttresses</i> ; 1032 fire; restored.	1150-60 rebuilt, nave vaulted; choir; façade; first stages W. towers; 1178-98 S. transept; crossing begun.	1240 N. transept done; 1274 choir, one nave chapel; sacristy; W. porch.	.....
Angoulême. S. Pierre (S. Pierre et S. Paul) (S. Saturnin, to VI century).	1000-17 rebuilt; <i>first bay</i> .	Rebuilt; 1128 dedicated.	1259 probably S. transept tower.	Choir aisles; S. w n-dows nave.
Anneçy. S. Pierre des liens. From 1822.	.....	Tower.	.....	.....
Antibes. To 1244.	Repairs.	.....	Parts.	.....
Apt. Notre Dame et S. Castor. To 1801.	Reconstructed.	.....	Cloister (now destroyed).	1313 N. aisle.
Arles. S. Trophime (called S. Étienne to 1152). To 1801.	Reconstructed.	W. porch, crypt chapel, part cloister.	E. cloister.	1359 W. cloister.
Arras. Notre Dame. To 1793.	1030 choir, transepts; consecration.	1160-70 rebuilt.	.....	1373 nave rebuilt.
S. Jean Baptiste. 1801-1833.	.....	.....	.....	.....
S. Vaast (Notre Dame et S. Vaast). From 1833.	.....	.....	.....	.....
Auch. S. Marie (Nativité de Notre Dame).	.....	.....	.....	4 times demolished and rebuilt prior to XV century.
Autun. S. Nazaire (S. Nazaire et S. Celse from XIV century) (jointly with S. Lazare to 1770).	.....	.....	.....	.....
S. Lazare.	.....	1120 begun; 1132 consecrated; 1178 W. porch.	Flying buttresses end XIII century.	.....
Auxerre. S. Étienne. To 1801.	1035 burned; rebuilt <i>crypt</i> .	1119 consecrated.	1215-34 choir; cloister.	Nave; W. portal; tr n-septs.

XV CENTURY	XVI CENTURY	XVII CENTURY	XVIII CENTURY	XIX CENTURY
1499 repairs.	1501-3 spire; reconstruction.		1782 restoration; W. façade; 1793 destroyed.	
	1508 nave vaults; nave windows rebuilt.	1624 consecrated.		
Nave; W. façade fortified.		Central apse.	1756-83 choir.	1835-37 aisles.
			Destroyed.	Present church.
1425 tower done; nave; 1477 W. façade.	1534 dedicated; 1594 repaired.	1695 chapel S. Sépulcre modernized; 1594 N. nave restored; 2 chapels.		1860 restoration; 1880 tower balustrade.
1472 repairs; restoration.		1668 tower done; repairs.	1771 choir and nave rebuilt. 1775 tower dome removed; vaults rebuilt. 1780 consecrated.	Internal changes; repairs.
Upper part tower; choir; 1473 S. portal begun; 1476 consecrated.	1501 S. portal done; 1512 completed.	1693 chapel S. Clair.		1850 restoration by Daly; roof balustrade.
	1577 injured; abandoned.			1830 one tower fell; other part destroyed.
		Sanctuary and sacristy vaults; W. door.	1787-9 internal repairs, restorations. 1793 sold; demolished save sanctuary and sacristy.	
			1752 rebuilt.	
Tower, upper part W. façade.	1527 central spire; 1529-33 central spire rebuilt.	1627, 1665 central spire injured; repaired.	1761 sanctuary decorations.	1812 external restoration; later restoration by Massenet.
1452 choir tower destroyed; 2 chapels; 1437 cloister.	W. towers twice destroyed; rebuilt; 1540 central W. tower; W. statue gallery.		W. porch removed; cloister repaired.	1831 W. towers burned; 1840 W. towers rebuilt; restored by Binet and Duvêtre.
	Injured; 3 towers destroyed.	1648 rebuilt; done.		Restoration by Abadie.
			Rebuilt.	
			Façade.	
	1534 apse; façade; vaults; 1570 tower.	1660-64 chapel S. Anne.	1721 repairs; vaults raised.	1842 restoration.
1440 choir and apse rebuilt.		1695 internal changes.		Restored by Révoil.
1407 nave done; 1484 done save one tower.			Internal changes; 1799 sold.	1802 destroyed.
	1565-84 built.		1728 tower.	Restoration.
			1755 rebuilt.	1814-33 continued.
1489 rebuilding begun.	1548 consecrated; transepts and nave uncovered.	1685 W. towers done.		
		1699 part vault fell.	1778 demolished; chapel S. Aubin remained.	
1465 central tower burned; rebuilt; flying buttresses repaired; chevet; chapels.	Chapels; sacristy.		Interior modifications; choir pilasters.	Restoration.
S. transept portal.	N. tower; N. transept portal lone.			Restoration.

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Avignon. Notre Dame des Doms.	c. 1038 partial rebuilding; <i>upper nave walls.</i>	W. portal.	.....	Nave; chapels.
Avranches. S. André. To 1801.	Begun 1025; nave; towers.	Choir; ambulatory; apse; chapels; tower; 1121 consecrated.	Burned early XIII; rebuilt; nave arches and windows, N. porch.	.....
Bayeux. Notre Dame.	1646 burned; rebuilt 1077 consecrated.	1106 burned; <i>nave arches; 2 towers.</i>	Upper part nave; spires; façade; choir.	S. transept portal.
Bayonne. Notre Dame.	.....	1140 rebuilt.	1213 begun; choir; apse; chapels; lower parts transepts; transept porches; cloister.	Nave; aisles; upper part transepts; vaults; W. portal; W. towers begun.
Bazas. S. Jean Baptiste. To 1801.	1070-80 rebuilt; 1096 consecrated; <i>nave pillars to 6th pair.</i>	.....	1233 rebuilt on old base; nave; apse; aisles; W. portals.	.....
Beauvais. Basse Œuvre. (Notre Dame et S. Pierre.) To XIII century.	Chiefly X and XI century.	.....	Door on S. side.	.....
S. Pierre.	.....	1180 burned.	1247 rebuilding begun; 1272 choir done; 1284 vault fell.	1322 consecrated; 1337-47 vault rebuilt.
Belley. S. Jean Baptiste.	.....	.....	.....	.....
Besançon. S. Étienne. S. Jean l'Evangéliste (S. Jean et S. Étienne).	1018 consecrated. 1031-67 rebuilt <i>fragments of aisle walls.</i>	Restoration; 1148 high altar consecrated; <i>nave arches; W. apse.</i>	1237 nave triforium and vaults; one chapel.	.....
Béziers. S. Aphrodise (S. Pierre et S. Aphrodise). To middle VIII century.	[Restored in X century; ancient crypt.]	.....	Repairs.	.....
S. Nazaire (S. Nazaire et S. Celse). To 1801.	.....	Reconstruction.	1215 restored; transepts; part nave.	1300 consecrated; cloister; choir; nave.
Blois. S. Louis (called S. Pierre to 650; S. Solenne to 1730). From 1697.	1016 rebuilt.	1106 rebuilt.	.....	1390 unsafe; taken down; tower foundations.
Bordeaux. S. André.	1096 consecrated; apse; choir; transepts done; nave in construction <i>lower part W. façade and nave.</i>	Continued; <i>upper part W. façade; decoration nave arches.</i>	1260 choir begun. Part nave vaults rebuilt; nave repaired.	1310 choir done; towers; transepts; cloister.
Boulogne-sur-Mer. Notre Dame. 1566-1813.	[Crypt, only part extant, may be prior to IX century.]	Probably rebuilt.	.....	1302 chevet and choir.
Bourg. Notre Dame. 1515-16; 1531-35.	[First chapel IX century.]	.....	Date unknown; mentioned 1295.	.....
Bourges. S. Étienne.	<i>Rebuilt; fragments; part crypt.</i>	Lower church, <i>side portals.</i> 1190-95 present begun.	E. end probably first quarter XIII; upper crypt; 1275-80 W. part.	1324 dedicated; part W. front.
Cahors. S. Étienne.	.....	1119 consecrated; N. portal.	1285 upper part choir; rebuilt; vault; cloister; 1293 apse vault.	W. façade; chapels; sacristy; cloister.
Cambrai. Notre Dame (Notre Dame et S. Jean Baptiste).	1023-30 rebuilt; dedicated; 1079 rebuilt; dedicated.	1148 burned; 1150-80 rebuilt; nave; transept.	1230-50 choir and apse chapels.	Chapels.
Notre Dame (formerly Abbey S. Sépulchre). From 1804.	1060 cloister.	.....	.....	.....
Carcassonne. S. Nazaire (S. Nazaire et S. Celse). To 1802.	Crypt; tower.	c. 1100 rebuilt; nave.	1269 choir enlarged.	1310-1320 rebuilt; choir, transepts, chapels.
S. Michel. From 1802.	[in Ville Basse.]	.....	.....	Chiefly.
Carpentras. S. Antoine. To IX century.	[Built VI century.]	.....	.....	.....
Notre Dame. To 982.	[Built in X century.]	.....	.....	.....
S. Pierre. To XV century.	[982 begun.]	Rebuilt.	Done early XIII <i>lower and one bay.</i>	1312 city burned.
S. Siffrein (Notre Dame, S. Pierre et S. Siffrein). To 1805.	.....	.....	.....	.....

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
1410 tower fell; 1431 rebuilt.	Chapel l'Annonciation.	1671 choir; 1680 chapel La Résurrection.		
Towers rebuilt. Nave chapels, S. transept, chapter.	N. porch repaired.		1794 demolished.	1802 ruins removed.
Central tower.		Internal changes (choir); 1676 dome destroyed.	1714 dome rebuilt.	Dome rebuilt; restoration.
Upper part choir; 1460 S. W. tower continued.	1515-44 S. W. tower continued.			Restored by Manchonlas and Beswillwald; 1877 N. W. spire.
Tower; nave vaults done.	Tower; repairs; 1537 façade done; 1599 aisle vaults done.	1635 nave vaults; exterior decoration done.	1724-46 W. gable; part vaults rebuilt.	1840 restoration by Dnphot.
				1866 first used for worship after Revolution.
Minor works.	1500-37 transepts; 1527 N. portal; 1548 S. transept portal; 1573 central spire fell.	W. wall.	1757 internal changes; 1783 central spire destroyed.	
1413 Choir.				1864 almost total rebuilding.
		1674 destroyed.		
Nave chapels.	Nave chapels.	1678 internal changes; E. apse.	1729 tower fell; W. apse destroyed; both rebuilt 1730-56.	Restorations; 1860 tower done; 1870 W. apse restored.
Tower, choir, transepts, sacristy, S. aisle chapels, S. door, W. rose.			Cloister destroyed and rebuilt; sanctuary decorations.	Cloister removed.
1443 Sacristy; injured in seige; repairs.				
	1544 upper part tower begun.	1609 tower done; 1678 all save tower and porch blown down; rebuilt.	Rebuilding continued; 1730 consecrated.	
Vaults repaired; some buttresses; 1440-92 Tour Pey-Berland.	1501-29 nave vaults rebuilt; 1554 W. nave bays rebuilt; renaissance buttress.	Point spire rebuilt.	1787 wood of roof burned; 1793 spire of Pey-Berland destroyed.	1820 N. façade injured by falling gable; restorations.
	1544 injured in seige repairs; repairs after 1562.	1621 repairs done.	1798 sold and removed.	1820 beginning present church.
	1505-1523, 1548-60 built.	1648 W. façade done; 1675 rebuilding done.	Tower restored.	Restorations.
Chapels; outer W. tower; N. W. tower.	1508-36 N. W. tower; 2 W. portals rebuilt; changes W. front; side portal porches.	1699 fire.	1735 central spire removed; 1757-60 sanctuary decorations.	Roof balustrade; buttress pinnacles; minor changes; restorations.
1484 one apse chapel, cloister.	Cloister done.			
1472 done; consecrated.	Spire injured; chapels.		1719-26 sanctuary decorations; 1796 sold; removed.	1809 last vestiges removed.
	1540 tower; fragments.		1703-29 built.	1859 fire; restored; enlarged.
Sacristy repaired.				1850-79 restored by Viollet-le-Duc.
				1849 fire; restored by Viollet-le-Duc.
In ruins.				
1404 begun.	1519 done; choir; apse; W. façade not decorated.	1605 W. façade done.		Apsé balustrade; 1829 cloister removed.

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Castres. S. Benoît. 1317-1801.		Tower.		
Cavaillon. S. Véran (Notre Dame et S. Véran). To 1793.	[Probably built IX century]; 1023 dedication, probably of rebuilt cathedral; <i>cloister</i> .	Cupola; tower; restoration end XII century.	1232 dedication.	Chapel S. Véran.
Châlons-sur-Marne. S. Etienne.		1138 fire; rebuilt. 1147 consecrated; <i>N. tower</i> .	1230 fire; rebuilt.	N. chapels.
Chalon-sur-Saône. S. Vincent. To 1801.		Transepts; external apse arches.	Choir; apse.	Nave triforium; upper windows.
Chambéry. S. François de Sales. From 1779.	Crypt.			
Chartres. Notre Dame.	1020 burned; rebuilt; 1030 burned; 1037 consecrated; <i>crypt</i> ; 1091 foundation <i>S. tower</i> .	c. 1110 foundation N. tower; 1140-60 W. façade; c. 1170 spire S. tower; 1194 fire; rebuilding; 1198 choir dedicated.	1210-12 transept porches begun; 1260 consecration; W. rose.	Façade gables; statuary S. porch; repairs; 1349 chapel S. Piat; 1395 top S. spire rebuilt.
Clermont-Ferrand. Notre Dame de Grâce (primitively Notre Dame et S. Laurent).	Rebuilt X or XI century.		1248 rebuilt; choir.	Transepts, towers, part nave, nave chapels before 1350.
Condom. S. Pierre. 1317-1793.				Sanctuary chapel.
Conserans. See S. Lizier.				
Coutances. Notre Dame.	1030 begun; 1056 consecrated; 1091 done; <i>interior of towers</i> .		Chiefly built between 1251-74; chapels.	Chapels; upper gallery W. façade; 1356 injured; repairs.
Dax. S. Vincent. Before 511.				
Notre Dame. To 1805.			Rebuilt; <i>sacristy, porch, portal, 2 buttresses</i> .	
Die. Notre Dame. To 1276 and 1687-1794.	Porch; part wall XI or XII century.			
Digne. Notre Dame du Bourg. To 1591.	[Part from IX century; part crypt and tower, may date IX century.]	Rebuilt end of XII.	Work continued.	Chapels; 1397 fire.
S. Jérôme (Notre Dame et S. Jérôme). From 1591.				
Dijon. S. Etienne. 1731-1801.	[Begun X century.]			
S. Bénigne. From 1801.	1016 reconstructed; <i>W. portal</i> ; crypt enlarged.	1106 dedicated; rotunda.	Injured by tower falling; 1280-91 rebuilt.	Parts W. façade; W. towers.
Dol. S. Samson. To 1793.			1231-65 choir; nave earlier; S. tower.	Choir chapels.
Eauze. Cathedral to VII century. Transferred to Auch.				
Elne. S. Eulalie. To 1602.	1042-69 rebuilt.	Oldest part cloister; 1140 fortified.	Choir enlarged.	Part cloister; chevet continued; chapel S. Agnès.
Embrun. Notre Dame. To 1801.	c. 1005 rebuilt.	Apse aisles.	Rebuilt before 1225; nave vault; W. façade; tower; porch.	
Entrevaux (Glandèves). Notre Dame la Dorée (N. D. de la Sedz, de Sede).	c. 1032 rebuilt.			1395 Glandèves abandoned for Entrevaux.
S. Martin. XIV-XVII centuries.				Built.
L'Assomption de la B. V. Marie. 1610-1801.				
Évreux. Notre Dame.	1072 consecrated; <i>arches 2 last bays; nave; part aisle wall</i> .	1119 burned, rebuilt; 1126 consecrated; 5 nave <i>arches</i> ; <i>vestibule to triforium</i> ; <i>organ tribune</i> . 1194 fire; upper parts nave destroyed.	1202 N. triforium; S. later; 1240 clearstory; 1275 choir; nave chapels.	Choir continued; 1356, 1379 fires.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
.....	1567 almost destroyed; repaired.	1678 rebuilding begun.	1718 done.	.....
.....	.....	.....	.....	Restoration.
.....
Transept chapels; 1403 consecrated.	Some chapels; 1520 spire N. tower. Chapels.	1628 W. portal, 2 bays nave; 1668 fire; 1669-72 apse chapels.	..... Tower destroyed.	Spires; 1850 S. transept portal; restorations. 1827-44 W. façade and towers by Lebas.
1430 begun; 1488 consecrated.	1507 portal; 1587 W. façade done.	.....	.....	.....
1412 chapel Vendôme	1501 chapel S. Jérôme done; 1506 fire, N. spire destroyed; 1506-14 N. spire rebuilt.	1674 fire; 1691-2 top S. tower repaired.	1744 W. rose repaired; 1753 top S. tower repaired; interior decorations; 1794 lead roof removed.	1836 severe fire; rebuilding; restorations by Lassus and Besswillwald.
Nave flying buttresses; upper part towers.	1505-17 roof.	.....	Internal changes; 1793 central spire removed.	W. front by Viollet-le-Duc.
.....	1506-21 rebuilt; 1531 consecrated.	.....	.....	.....
Minor work end century.	Restored after 1562; part central tower; 1593 chapel Roquette.	1651 top S. tower destroyed.	Many repairs.	Restorations.
.....	.....	.....	1786 crypt destroyed; church rebuilt.	.....
.....	.....	1646 ruined; 1653 rebuilding begun.	1719 done; 1755 consecrated.	Restoration.
.....	1577-85 almost ruined by Huguenots.	1673 rebuilt.	.....	.....
.....	1568 spire destroyed; other injuries.	.....	Some chapels removed.	Restoration façade.
1490-1500 built.	.....	.....	.....	Restorations.
.....	.....	.....	1721 rebuilt; W. portal.	Not now used as church.
.....	1506 W. spires fell.	1625 central tower injured.	1742 central spire; 1793 rotunda destroyed.	1885 central spire removed, 1893-94 new central spire; restorations.
S. porch.	N. tower.	Turret of S. tower.	Choir restoration; S. tower repaired; greatly injured.	Restorations.
.....
Repairs; W. front; chapels; part S. aisle vault rebuilt; upper part N. tower.	.....	1669 S. portal repaired.	.....	1828 cloister roof.
Chapel S. Anne.	1542 narthex; apse windows enlarged.	.....	.....	1852 W. tower injured; rebuilt.
.....
.....	.....	.....	.....	1806 demolished.
.....	.....	1610 built; 1655 tower building.	.....	.....
475 transepts and central tower done.	1511-31 N. transept portal; nave chapels repaired externally; W. façade and towers rebuilt.	W. façade and towers continued.	.....	Restoration; 1875 total transformation nave.

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Forcalquier. S. Mary (sometime Notre Dame et S. Mary; popularly Notre Dame in XV century). 1065-1486.		1149-1209 rebuilt.	1296 completed.	
Notre Dame (L'Assomption; popularly S. Mary XV century). From 1486.		1196 earliest mention.	Chapel Sacré Cœur.	1371 consecrated.
Fréjus. S. Étienne.	Built XI or XII century.		Cloister; tower.	
Cap. Notre Dame (L'Assomption; l'Assomption et S. Arnoux in XVI century).	1010-29 built.	c. 1130 burned; rebuilt.	1271 part old cathedral demolished; new begun.	Lady chapel.
S. Jean-Je-Rond (Chapelle des Pénitents). Pro-cathedral from 1866.				
Clandèves. See Entre-vaux.				
Grasse. S. Marie, or Notre Dame du Puy (<i>sancta Maria de Podio</i>). 1244-1801.		Chiefly; may have been begun XI century.		
Grenoble. S. Hugues (formerly S. Vincent). To X century. (Now right aisle of Notre Dame.)			Rebuilt.	
Notre Dame. From X century.	Porch and tower.	Columns and vaults of nave.	Nave vaults.	
Langres. S. Mamès.		1150-1200 rebuilt; choir.	Nave done; apse windows repaired.	Cloister demolished.
Laon. Notre Dame. To 1801.	Fragments.	1112 burned; 1112-14 rebuilt; 1114 dedicated; 1150-70 choir, transepts, nave.	Chapels; chapter; cloister; apse; S. transept portal repaired.	Chapels; S. transept rose.
Laval. La Trinité. From 1855.	1040-70 built.	1110 central tower; 1180-85 transept; nave.		
Lavaur. S. Alain. 1317-1801.	Rebuilt; <i>door baptismal chapel; N. buttress; vestiges of wall.</i>		1211 ruined in siege; 1255 rebuilt.	Continued.
Lectoure. S. Gervais et S. Protas. To 1801.			Rebuilt.	1325 dedicated.
Lescar. Notre Dame. To 1801.	[980 rebuilt.]			
Limoges. S. Étienne.	1014 rebuilt; 1095 dedicated; <i>crypt</i> . [Lower part tower (not visible) is X century.]	Burned.	1273 rebuilding begun; choir.	1327 choir done; 344 S. transept portal; 1378 Chapel S. Valerie.
Lisieux. S. Pierre. To 1799.	1026-55 rebuilt; <i>lower N. transept wall</i> , 1051 dedicated.	1135 burned; 1141-82 rebuilt; <i>nave, transepts, 2 bays choir, 2 chapels S. aisle.</i>	1208-19 rebuilding; 1226 fire; 1233 completed; 2 bays choir, apse, W. portal.	Nave chapels; S. transept window.
Lodève. S. Fulcrand. (S. Genès et S. Fulcrand.) To 1790.	[975 dedicated.]			Rebuilt.
Lombes. S. Marie. (Abbey Church of Notre Dame la Save.) 1317-1805.				Chiefly.
Luçon. Notre Dame. (L'Assomption.) From 1317.	1068 burned; 1091 restored.	1121 consecrated; <i>N. transept façade, W. wall N. transept, parts S. transept.</i>	Nave; transept chapels.	1317-34 choir.
Lyons. S. Nizier. To VIII century.				
S. Étienne. To XIII century.				
S. Jean (Baptiste). From XIII century.	[New church apparently built around old.] 1050 repairs.	1107-18 rebuilt, choir, <i>chapels N. D. and S. Pierre</i> ; 1165-80 continued; transepts; upper part choir.	1245, 6 bays nave done and high altar consecrated; N. transept tower; part S. transept tower.	W. façade; 2 W. bays nave; 1392 W. rose.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
1408 consecrated; 1480 tower; 1481 injured in siege; 1486 abandoned.	In ruins.	Sold; remains removed.		
Chapel S. Sébastien.	1531 spire fell; 1573 spire rebuilt.	1601 central spire rebuilt; 1643-62 aisles.		Restored by Abbé Terrasson.
1484 chapel.	1530 S. portal. 1582 practically ruined; rebuilt.	Continued; 1692 wholly ruined; 1693 repairs.	1702-20 rebuilt.	1866 demolished; rebuilt.
	Destroyed.	Rebuilt.	Made theatre.	Restored.
1486 tower restored.		1680-89 choir changes.	Changes choir, façade; 1719 crypt done; 1738 chapel S. Sacrament; 1742 tower destroyed; 1756 rebuilt; 1795 fire.	
	S. aisle and chapels.			W. portal.
	1531, 1542, 1585, fires.	Chapel inclosures.	1768 W. portal and towers. 1794 spire N. W. tower demolished.	1843 belfry over W. gallery removed; restored by Bœswillwald.
1485 gable heightened.	Choir; 1575-97 N. portal.	1650 central tower burned.	1734 external stairway.	1847 W. transept and portal rebuilt; restoration.
1415 sacristy; 1469 W. of nave; towers.	1500 portal; chapels.	Restoration; 1669 upper part square tower.	Internal restorations.	Tower restored.
1488 tower.	1540 restoration; choir; foundations nave.	Restoration.	Restoration.	
Nave windows.	1537-54 sacristy.	1608 tower fell (façade rebuilt); 1627 N. transept door.		Restoration.
Bay nave destroyed; 2 new bays; W. wall transepts; transept vaults; N. W. door; 1483 spire destroyed.	1515 façade N. transept begun; new works nave.			Extended restoration; 1876 W. façade begun by Bailly.
1430 Lady chapel; 1452 central tower restored; 1485-87 nave and S. tower restored.	Restorations; 1553 S. tower fell, rebuilt 1579; vaults and chevet flying buttresses repaired.	1677-89 internal changes.	1705 internal changes.	Restorations since 1841. Millet.
	Internal repairs.			
Tower.				
Sacristy; cloister rebuilt.	1523 consecrated; 1550 aisle chapels; vaults repaired.	W. tower fell; W. façade.	1702 W. spire done; N. side chapels.	1847 spire fell; rebuilt; restored by Bœswillwald.
Rebuilt.	Crypt restored.			S. tower, W. gable restored.
			1796 destroyed.	
1413 upper part S. transept tower; 1480 top W. façade, 2 towers; gable; apse balustrade; chapels.		Chapels.	1756 arch W. door.	1849 restoration; apse pinnacles and gallery balustrade; 1861 roof heightened.

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Mâcon. S. Vincent. (1.) S.S. Pierre et Paul; (2.) S.S. Gervais et Protais. To 1802.	1019-30 active rebuilding; nave vaults.	1096-1124 nave vaults done; <i>porch</i> ; <i>lower parts towers</i> .	Nave and choir rebuilt; crypt.	Chapels; upper part towers.
Maguelone. S. Pierre. To 1527.	1030-54 rebuilt; 1054 dedicated.	1162 high altar consecrated; 1178 nave and W. portal rebuilt.	.....	.....
Maillezais. S. Pierre. 1317-1648.	Rebuilt; 1010 consecrated; <i>narthex</i> , 2 <i>towers</i> , <i>N. wall</i> ; 1082 fire.	.....	1232 fire; rebuilt, chiefly choir.	.....
Mans, Le. S. Julien. (1.) Notre Dame et S. Pierre; (2.) S. Gervais et S. Protais; (3.) B. V. Marie, S. Gervais et S. Protais et S. Julien (1120).	c. 1055 rebuilt; 1067-85 fell; rebuilt; 1093 consecrated; <i>W. facade</i> , <i>aisle walls and vaults</i> .	1134, 1136 burned, repaired; 1120, 1158 dedications; 1150-58 nave; transept columns; S. porch; base tower.	1217-54 choir.	S. transept; crossing vault.
Église des Jacobins. Pro-cathedral 1768-71.	.....	.....	.....	.....
Marseilles. La Major. (S. Marie Majeure.) (Once S. Lazare.)	1050 choir vaults rebuilt; 1073 total rebuilding; <i>apse</i> , <i>tower</i> .	Apse chapels.	Chapels.	Chapels.
S. Martin. Pro-cathedral in 1802 and in 1854.	.....	.....	.....	.....
S. Cannat. (Les Prêcheurs.) (Pro-cathedral.)	.....	.....	.....	.....
S. Marie Majeure. (L'Assomption de Notre Dame).	.....	.....	.....	.....
Meaux. S. Étienne. (Notre Dame et S. Étienne.) [Perhaps 2 separate cathedrals to 1005.]	Rebuilt; <i>crypt fragments</i>.	.....	Lower arches choir; windows and triforium N. transept; aisle columns; 1284 rebuilt; upper part choir and apse; chapels.	Middle and right W. portals; S. transept portal; chapels; transept gables.
Mende. Notre Dame. (Notre Dame et S. Privat.)	.....	.....	.....	1369 rebuilding begun.
Mirepoix. S. Maurice. 1318-1801.	.....	.....	1298 done.	.....
Montauban. S. Martin (formerly S. Auriol, S. Théodard, S. Andouard or Andard). 1317-1563.	Built XI or XII century; several restorations.	.....	.....	.....
S. Jacques. 1563-1739. (Pro-cathedral.)	.....	Part tower.	.....	Nave; choir.
Notre Dame. From 1739.	.....	.....	.....	.....
Montpellier. S. Pierre. (Originally Church of Monastery of S. Benoît.) From 1527.	.....	.....	.....	1364 first stone; 1373 consecrated; <i>nave</i> , 3 <i>towers</i> .
Moulins. Notre Dame From 1822.	.....	.....	.....	.....
Moutiers-en-Tarantaise. S. Pierre. (L'Assomption de la B. V. Marie et des Apôtres S.S. Pierre et Paul.)	Rebuilt; <i>aisles</i> , <i>choir</i> , <i>lower part choir towers</i> , <i>transepts</i> . [Remains W. towers perhaps X century, <i>crypt</i> earlier.]	1174 roof repaired.	.....	.....
Nancy. Notre Dame. From 1777.	.....	.....	.....	.....
Nantes. S. Pierre. (S. Pierre et S. Paul.	[Rebuilt X century.]	Rebuilt; <i>crypt</i> , <i>crossing</i> , <i>choir</i> .	1208 done, save choir tower.	Aisle chapels.
Narbonne. S. Just. (S. Just et S. Pasteur.) To 1801.	.....	.....	1270 rebuilding begun; choir.	1320 choir done.
Nevers. S. Cyr. (S. Cyr et S. Juliete.) (S. Gervais et S. Protais to 802.)	1028 rebuilt; <i>W. apse</i> , <i>lower part transepts</i> , <i>crypt</i> .	1188 roofed; upper part transepts.	1211 fire; rebuilt; nave, first choir bay; 3 apse chapels; 1280 N. portal.	1331 consecrated; choir done; tower to lower gallery; chapels.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
Chapel S. Paul; W. wall repaired.	Ruined by Huguenots.	Repairs.	Repairs; 1739 internal changes; 1799 demolished save W. towers and narthex.	1855 remains restored.
.....	.....	.....	1791 sold.	1875 restored to worship.
1475-81 transepts.	1518-42 chevet; 1587 ruined.	.....	1790 sold.	.....
1403-25 N. transept; S. tower; 1471 central spire rebuilt.	1506 internal restoration; 1583 central spire burned.	1648 roof repaired.	1767 interior decorations.	1822 stone spire destroyed; restorations.
.....
1416 choir vault restored; chapels.	.....	1646 S. portal restored.	Repairs; internal changes.	1811 upper part tower removed; restoration; 1856 demolition begun.
.....
.....	.....	Built.	Continued.	1880 done.
.....	.....	.....	.....	1852 first stone; 1855 begun; Vaudoyer, D'Espérandieu, Révoil, Erard architects.
Left W. portal; 1458-73 N. tower; part nave.	1530 N. tower done; nave decorations; chapels; sacristy.	1640 central spire removed; chapels decorated.	Internal changes; choir vault repaired.	Changes; rebuilding; restorations.
1437 choir consecrated.	1508-12 W. towers; 1580 destroyed save apse, some aisle chapels, bits of wall, W. towers; restored.	1600-20 rebuilt; 1620 consecrated.	.....	.....
1405-33 rebuilt; choir, chapels.	Continued; 1506 spire done.	.....	.....	1858-65 nave vault and roof done.
.....	1562 burned; 1563 demolished.	.....	.....	.....
.....	Vault rebuilt.	.....	.....	.....
.....	.....	1692 foundations.	1739 completed.	1831 W. towers removed; W. gallery.
.....	Ruined; tower destroyed.	1692 rebuilding begun.	1775 choir rebuilt.	1855-57 S. W. tower rebuilt; restorations; additions; new choir and transepts by Révoil.
1468 begun.	1508 completed.	.....	.....	Nave by Lassus and Viollet-le-Duc.
1461 corner towers demolished; W. façade; vaults rebuilt.	.....	1642 aisles, repaired; 1668 almost wholly rebuilt; 1686 W. portal.	1794 vault and roof fell.	1826-28 nave, aisle and transept vaults; general rebuilding; 1864 W. portal; 1869 parish chapel.
.....	.....	1607 begun.	1703-42 rebuilt.	.....
1434 larger part pulled down; rebuilt; nave; 1473 W. porch. Towers; chapter.	Continued; 1595 fire in choir tower.	1628 nave vaults; 1657 S. transept.	1733 choir changes and decorations.	Continued; restorations; 1890 choir done.
.....	.....	.....	1708 first stone nave; 1772 work stopped.	Restored by Laisné.
Chapels; sundry works; 1490 S. portal.	1528 tower done.	.....	1770 choir changes.	1850-60 restoration by Ruprich-Robert.

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Nice. S. Mariel de l'Assomption. To 1517. S. Réparate. From 1517.	Built.			Restored.
Nîmes. Notre Dame et S. Castor.	1030 rebuilt; 1084 restored.	<i>Parts of façade.</i>	Restored.	
Noyon. Notre Dame. To 1861.		1131 burned; c. 1149 begun; practically done by 1200.	Chapels; cloister; upper parts towers; W. portals; 1293 fire; vaults repaired.	W. porch; chapels.
Oloron. S. Marie. To 1791.	Rebuilt.	W. portal.	W. tower.	Choir; nave repaired.
Orange. Notre Dame de Nazareth. To 1799.	1085-1126 rebuilt; <i>portal.</i>	<i>E. end, lower part S.</i>	1208 consecrated.	Upper part S. portal; 1338 tower.
Orléans. S. Étienne. To IV century.	Rebuilt.			
S. Croix.	1000 rebuilt.		1287 rebuilding begun; choir; <i>sanctuary; apse chapels.</i>	1328 consecrated; nave and choir done.
Pamiers. Mas S. Antonin. 1297-1499. S. Antonin (formerly Notre Dame du Marcadal). From 1499.		Rebuilt.		
		Rebuilt; <i>nave portal.</i>		W. tower; W. wall; rebuilding proposed.
Paris. S. Étienne. Jointly with Notre Dame to XII. Notre Dame.			1219 removed.	
		c. 1135 repairs, <i>sculptures of door S. Anne</i> ; 1163 rebuilding begun; by 1196 choir, ambulatory, parts transepts and nave done.	1208-23 W. façade; 1235 done; fire; 1240-45 repairs and changes; 1257 transept façades begun; 1260-75 nave chapels.	Nave chapels; 1351 wholly done.
Périgueux. S. Étienne. To 1669. S. Front. (S. Front et S. Étienne.) From 1669.	[Rebuilt end X century; W. <i>part.</i> 1047 consecrated.			
		1120 burned; restoration (perhaps rebuilding) to 1140.	Cloister vault rebuilt.	1347 Chapel S. Antoine.
Perpignan. S. Jean Baptiste. From 1602.				1324 first stone.
Poitiers. S. Pierre.	1018 burned; rebuilt; 1021 consecrated.	1162 first stone present church.	1204 nearly done; W. façade.	W. façade; 1379 done, consecrated.
Puy, Le. Notre Dame.	2 inner bays porch; tower. [Part cloister X century.] Body of church is XI	2 outer bays porch; W. façade; part cloister rebuilt. and XII centuries.		Chapter.
Quimper. S. Corentin. (Notre Dame et S. Corentin.)	<i>Fragments in chapel S. Sacrement.</i>		1239 rebuilding begun; choir; chevet.	Chapels.
Reims. S. Pierre. (Primitive cathedral.) Saints Apôtres (afterwards S. Symphorien). 314-401. Notre Dame. From 401.	[Rebuilt IX century.]			
			1211 burned; 1212 begun; 1242 consecrated; most done.	3 first bays nave; 1331 W. façade to King's gallery; N. nave chapels.
Rennes. S. Pierre.		1180 removed; rebuilt; choir.		1345 restoration; 1359 consecrated.
Notre Dame en S. Melaine. (S. Melaine to XVIII century; S. Pierre 1754-1844.) Pro-cathedral 1754-1844.	1032-54 W. door; <i>nave aisles; transepts; lower part tower.</i>		Nave; choir; choir aisles.	Completed; upper part tower.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
1409 dedicated; 1462-1501 restored.	1531 destroyed.	.....	.....	.....
.....	1531 rebuilt.	1650 finished.	.....	1858 coupola fell.
.....	1567 destroyed save façade; rebuilt; demolished.	Rebuilt; done 1646.	.....	.....
Chapels.	Chapels; 1516-52-57 fires.	.....	Flying buttresses restored; apse towers destroyed; internal changes.	Restored by Selmersheim.
Nave chapels.	.....	.....	.....	.....
.....	1562 vault and tower destroyed; rebuilt.	.....	1775 W. tribune.	W. portal.
.....	1562 demolished.	Rebuilt; fragments of arcade at No. 6 rue au Cloître.	1722 demolished.	.....
Transept aisles; central tower; some aisle windows.	1567 burned, save 2 W. towers, portal, chevet; temporary repairs.	1601 rebuilding begun; 1643-63 central tower and spire; 1676-85 roofs; 1691 central spire removed.	1708 base central tower removed, 1711 rebuilt; 1725 old towers removed; 1790 upper W. front and towers done.	1829 rebuilding done; 1858-59 central spire rebuilt, designed by Baeswillwald; restoration.
1486 monastery ruined.	.....	.....	.....	.....
.....	1577 ruined by Huguenots.	1657 rebuilt.	Interior decorations destroyed.	Restorations; decorations; tower gallery.
.....
.....	.....	1699 internal changes begun.	1726 roof covering, S. rose repaired; internal changes to 1771; 1773-87 external restorations; 1783 N. rose repaired; central spire removed.	General restoration by Viollet-le-Duc; 1859 central spire.
.....	.....	Nearly ruined by Huguenots.	Choir rebuilt.	.....
.....	1581 N. porch repaired.	Large restorations; dome roofs.	.....	Total restoration by Abadie since 1865.
.....	1509 consecrated; chapel.	W. porch.	1742 iron spire of tower.	.....
1480-1500 upper parts W. façade and towers.	Repairs; stairway N. tower and spire.	Internal changes; roof repaired.	Internal changes; 1769 transept spire removed; chapels.	1849 restoration begun.
Chapel S. Joseph and porch.	.....	.....	.....	.....
1424 fresh activity; W. façade and towers; 1464 aisle vaults; 1487-93 transept and nave vaults.	Minor restorations; 1510 consecrated.	Lead spire; 1620 central spire burned.	1777 choir roof repaired.	1854-56 spires and restoration by Bigot.
.....
.....	.....	.....	1710 worship discontinued; in ruins; 1793 removed.	.....
.....	.....	.....	1793 collegiate church S. Symphorien existed.	No remains.
1428 W. towers; 1481 fire; transept towers spires and balustrade destroyed; repairs.	Restorations; 1538-74 internal repairs.	W. portal and rose repaired.	1742-85 internal changes.	Balustrade restored; restorations by Arveuf, Viollet-le-Duc, Millet, Ruprich-Robert; Darcy.
1490 W. façade restored; chapels.	1532 choir decorations; 1541 foundations W. towers.	1610 centre part W. façade.	1703 done; upper parts towers; threatened to fall; 1754 closed; 1787 rebuilding begun.	1820-44 rebuilt.
.....	1516 restoration.	1672 upper parts tower dome.	.....	.....

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Rieux. Notre Dame. 1317-1801.				1330 3 bays nave; additions to apse buttresses.
Riez. Notre Dame du Siège, <i>de Sede.</i> To IX century.	Rebuilt between 1090-1133.			
S. Maxime. (S. Alban to VI century.) From IX century to 1520.				
Notre Dame du Siège et S. Maxime. 1520-1801.				
Rochelle, La. S. Barthélemy du Grand Temple. 1648-1687.				
S. Louis. (S. Barthélemy to 1667.) From 1687.		1152 built.		<i>Tower.</i>
Église des Augustins (now des Ursulines). Pro-cathedral 1722-1784.				
Rodez. Notre Dame.			1276 old cathedral fell; 1277 foundations rebuilding; apse, first 2 bays choir, 11 chapels.	Last 4 choir chapels; 1385 tower done.
Rouen. Notre Dame.	Rebuilt; 1063 consecrated.	1170 base N. tower, lateral W. doors.	1200 burned; 1202 begun; 1220 most done; 1280 transept portals begun; aisle chapels.	1302-20 Lady chapel rebuilt; aisle chapels.
S. Bertrand-de-Côm-minges. Notre Dame or S. Marie. (Notre Dame et S. Bertrand.) To 1801.	c. 1080 rebuilt; W. portal, W. tower, walls first 3 bays nave.	S. and W. cloister.	E. cloiste	1304-50 rebuilt.
S. Briec. S. Étienne.		<i>Some choir capitals.</i>	Begun before 1234.	Choir vaults; Lady chapel; sacristy; 1375, 1394 sieges.
S. Claude. S. Pierre. (S. S. Pierre, Paul et André.) From 1742.	Rebuilt several times prior to XIV.			Rebuilt; 1378-94 chevet; Chapel de Neuville; parts N. and S. walls.
S. Dié. S. Dié (S. Maurice to 1501). From 1777.	1005-49 rebuilt.			Injuries.
S. Flour. S. Flour. From 1318.				1375 rebuilt.
S. Jean-de-Maurienne. S. Jean.				
S. Lizier (Conserans.) S. Lizier. To 1667.	Apse rebuilt. [2 apse towers X century or earlier.]	Choir; transepts; lower parts nave; cloister; 1117 consecrated.	Cloister.	Rebuilt; upper part nave walls and vaults; buttresses; tower: W. portal.
S. Marie de la Sède or du Siège. (Jointly with S. Lizier to 1667.) To 1795.		Chapter; lower part tower.		Rebuilt.
S. Malo. S. Malo. (S. Malo et S. Vincent.) 1163-1801.		Built.		Part nave; transepts; choir; choir chapels.
S. Omer. Notre Dame. 1559-1778.	1052 first authentic reference.		Choir; chapels; part transepts.	Nave; chapels; 1855 S. transept portal; 1397 nave rebuilding begun.
S. Papou. S. Papou. 1317-1801.		Choir.	Nave, cloister.	Sacristy.
S. Paul-Trois-Châteaux. Notre Dame et S. Paul. To 1801.	Apse; transepts [Parts may be VIII century.]	Nave, W. façade to tympanum; S. porch.		
S. Pol-de-Léon. S. Pol To 1802.		Part N. transept.	Nave; W. towers; W. façade.	1349 nave vaults; chapels.
S. Pons-de-Thomières. S. Pons. 1318-1795.		Chiefly.		

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
Consecrated before 1462.	1530 door under tower.	c. 1600 choir; sacristy; 1651 choir consecrated.		
1498 demolished; foundations extant.				
	1596 demolished.	1662 present chapel.		
1490 first stone.	1524 choir; sacristy; tower, 1578-99 repairs, wood vault; 1594 sacristy; 1599 tower rebuilt.	Between 1628-52 Bishop's chapel.	Preparations for nave additions.	1842 ruined; rebuilt.
	1577 foundations.	1687 burned.		
	1568 destroyed.	1668 rebuilt.	1742 new cathedral begun.	1849-62 completed; 1862 dedicated.
		Built.		
Choir done; part nave; transept portals; nave chapels.	Nave done; c. 1530 W. façade; 1510-26 tower rebuilt.			
1467 upper part N. tower; 1481 N. transept court; 1487 S. tower begun; 1488 transept portals done; repairs. Chapels.	1507 S. tower done; 1509-30 W. front; 1514 central spire burned; 1523-44 rebuilt.	1683 3 turrets W. front fell.	Internal changes.	1803 repairs; 1822 central spire burned, vaults injured; restoration; 1876 central spire done.
	Cloister repaired, XV or XVI century.			Cloister in ruins; roofed in 1888.
Repairs.			1705-20 partial rebuilding.	Restorations.
1465 first 4 bays done; cloisters rebuilt.			1726 completion begun; 1742 done; internal changes; 1799 fire; cloister destroyed.	Internal restorations.
Cloister; injuries.	Chapels; cloister repaired.	Sanctuary.	1711 W. portal.	
1466 rebuilding done.				Restored by Mallay.
Rebuilt; 1452 cloister; 1474 choir done; nave aisles; chapels.			1772 façade.	1891 restored.
Minor changes; part cloister.		1650-80 tower repaired.		
	c. 1509 vaults, decorative columns; 3 chapels S. side.	1667 sole cathedral.		
Central tower.	1530 S. aisle; 1593 N. aisle begun.	1607 N. aisle done.	1713 façade.	1859 central spire.
1442 S. transept portal done; nave; aisles; transepts done; chapels.	W. tower rebuilt, done 1521; cloister done; minor repairs.	1606 small tower fell; 1621 inner porch.	1713 small tower rebuilt; 1752 internal changes.	Restored by Beswill-wald; chapel Sacré Cœur rebuilt.
Tower.				
	Repairs.	1603, 1630, 1683 repairs; 1634 dome rebuilt; sanctuary.	Central dome demolished.	1841 pediment W. front; restored by Questel.
1431-50 choir, transepts rebuilt; inner porch S. transept.	Chapels retouched.			Interior restored.
		Restoration; E. façade.		

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
S. Servan (Aleth). S. Pierre. To 1163.		1150 in ruins; choir remained.		
Saintes. S. Pierre. (S.S. Pierre, Paul, Pancrace et Laurent in VI century.) To 1801.	1026 burned.	1117-27 rebuilt; 1185 consecrated.		
Sarlat. S. Sacerdos. (S. Sauveur et S. Sacerdos.) 1318-1801.	Built.	Built; <i>tower</i> .		In bad state; 1340-50 chapel N. D. de Pitié.
Séez. Notre Dame (S. Gervais et S. Protais to 1786).	1053 rebuilt.	1126 dedicated; portal; cloister.	1210 Lady chapel; 1230 rebuilt; choir; 1260 fire, rebuilt.	Dedicated before 1315; 1353, 1375 fires; extended rebuilding; choir buttresses.
Sénez. L'Assomption de la E. V. Marie. To 1789.		1136-76 rebuilt.	1242 done; consecrated.	
Senlis. Notre Dame. To 1801.		1145-55 rebuilt; 1183 done save transepts and towers; 4 apse chapels; 1191 consecrated.	1240 spire done; part transepts; W. façade; chapels.	1304 fire; chapter; chapels.
Sens. Notre Dame; S. Etienne; S. Jean Baptiste. Three primitive oratories of III century on site of present cathedral.				
S. Étienne.	[982 dedicated.]	1140-68 rebuilt.	W. façade; 1267 S. tower fell, injuries, fire; upper parts rebuilt; chapels; E. part S. aisle; 1279 top N. tower.	Nave and choir chapels; central spire and S. tower rebuilt; W. part S. aisle.
Sisteron. S. Thyrese. (Primitive cathedral; destroyed in first barbarian invasions.)				
Notre Dame-hors-la-Ville (Notre Dame de Pomeris, <i>des Pommiers</i>). (Notre Dame et S. Thyrese to 1343). To 1801.	1015-29 rebuilt.			
Soissons. S. Gervais et S. Protais.		1160-70 rebuilt; S. transept after 1176.	1212 choir done; tower; N. transept.	Nave chapels.
Tarbes. Notre Dame de la Sede. (Nativité de Notre Dame.)		Apse windows; transept.	N. rose.	Nave; transept octopola.
Tarentaise. See Moutiers.				
Thérouanne. To 1566.				
Toul. S. Étienne. To 1807.	[952 rebuilding begun.] 1070-1107 choir towers.	1107 choir towers done; 1148 dedicated.	Rebuilt; choir; transepts; cloister.	Nave; aisles.
Toulon. S. Marie-Majeure. To 1801.	1096 rebuilt.	1119-54 restored.		
Toulouse. S. Étienne.	1078 rebuilt; <i>brick side wall; 2 windows; caps supporting nave ribs; arcades inner W. wall.</i>		1211 nave vaults; 1230 W. rose; 1272 choir begun; chapels.	Chapels.
S. Jacques.		At first jointly with S. Étienne, but not known as cathedral in 1154.		
Tours. S. Gatien. (S. Maucet to XIV century.)		c. 1130 rebuilding begun; <i>fragments</i> ; 1166 fire; 1170 rebuilt.	Rebuilt; 1267 apse and choir done; transepts.	Transept portals 2 bays, lower part 5 bays nave, early XII; 1375 central tower.
Tréguier. S. André. To 1801.		N. tower.	1296 general restoration; <i>W. porch</i> .	1339 almost wholly rebuilt.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
			1709 parts wall and choir extant.	[Site occupied by modern chapel.]
1450 rebuilt: aisles; choir and nave chapels; tower; 1460 portal begun.	1503 portal done; 1523 consecrated; nearly ruined by Huguenots; 1582-85 rebuilt.	Continued.	1762 repairs; vaults rebuilt.	Restorations.
	1504 old cathedral removed; new begun; 1531 consecrated.	1697 repairs and restoration; choir changes; chapel N. D. de Bon-Encontre; sacristy.		
1494 reconsecrated.	Changes; W. buttresses; N. transept, W. portals and towers restored; choir vaults fell; rebuilt.	Towers, roof, vaults, chapel repaired; wood dome central tower.	Bad condition; many repairs; 141 nave used.	1822 S. tower made height N. tower; restorations from 1848 by Ruprich-Robert; 1887 rebuilding choir done.
	1561-87 restored.			Vaults rebuilt.
1417 fire; restoration.	1502 serious fire; repairs; upper part rebuilt; transepts done 1556.	Repairs.	Repairs.	Restorations; central apse chapel rebuilt.
Chapels; transepts; 1490-1500 S. transept portal.	1501-1515 S. transept portal; 1528-35 lantern S. tower; chapels.	Repairs.	1726 internal changes; 1795 central apse removed.	1842 N. tower cage removed; 1859 side chapels removed; nave walls rebuilt; restorations.
		Choir changes.		
1443 repairs; 1479 done; consecrated.			Central and left W. portals repaired.	
	1553 destroyed.			
1460 W. portal begun.	1547 W. towers and portal done; 1552 choir towers removed; choir vaults rebuilt.	Repairs; 1624 sanctuary decorations.	Sanctuary changes to 1761.	1809 Church of S. Jean-du-Cloître demolished; rebuilt; restoration by Bœs-willwald.
		1609, 1653 additions; nave; façade.	1737-40 tower.	
Choir triforium; 1449 W. portal begun; chapels; tracery in some nave windows.	1522-1533 repairs; apse buttresses; stair tower; choir triforium; W. tower done; chapels.	1609 fire; one bay vault; repairs; stair tower dome.		1812 cloister removed; restorations.
				1812 demolished; Chapel S. Anne built.
1425 central tower burned; 1430 nave done; W. façade; cloister; chapels.	1507 N. tower done; 1547 S. tower done; cloister.			Restoration.
S. porch; upper part transept tower; cloister.			Spire.	

	XI CENTURY.	XII CENTURY.	XIII CENTURY.	XIV CENTURY.
Troyes. S. Pierre et S. Paul (primitively S. Sauveur).	.....	1188 burned.	1214 rebuilding; choir; lower part transept; part vaults; central tower.	1365 central tower destroyed; transepts done; nave chapels.
Tulle. Notre Dame (formerly abbey church of S. Martin). From 1317.	.....	1103 rebuilt to vaults; W. porch; chapter chapel.	Tower; cloister; chapter.	Spire.
Uzès. S. Théodoret. To 1817.	.....	Rebuilt.	.....	.....
Vabres. S. Sauveur (formerly abbey church of Notre Dame). 1317-1796.	.....	.....	.....	In ruins; rebuilt; last 2 choir chapels; some chapel arches, S. façade.
Vaison. Notre Dame. To 1801.	[Rebuilt 910]; tower restored; cloister.	.....	.....	.....
Valence. S. Apollinaire (B. V. Marie, S. Corneille et S. Cyprien; originally S. Apollinaire et S. Cyprien).	Rebuilt; 1095 dedicated.	.....	1281 upper part tower fell; rebuilt.	.....
Vannes. S. Pierre.	991-1037 rebuilt.	Rebuilt; 1149 done.	Tower.	1310 chapel S. Jean Baptiste.
Vence. Notre Dame. To 1801.	[Enlarged and changed X century.]	Apse chapel of SS. Anges; double bays tower; aisles; roof cornice; all end XII.	.....	.....
Verdun-sur-Meuse. S. Pierre et S. Paul. To V century (Abbey S. Vannes from 952).	Rebuilt.	.....	Rebuilt.	.....
L'Assomption de la B. V. Marie.	1050 burned; rebuilt.	1131-58 rebuilt; 1148 dedicated.	Sacristy; aisle columns.	Pilasters E apse made buttresses; nave; chapels; 1390 nave vaults; window changes.
Versailles. S. Louis. From 1802.	.....	.....	.....	.....
Vienne. S. Maurice. To 1801.	1052 rebuilt.	Continued; 7 bays nave; 1107 consecrated.	c. 1200 choir; 1251 consecrated.	Aisle chapels.
Viviers. S. Vincent.	.....	Tower.	Nave.	Choir.

XV CENTURY.	XVI CENTURY.	XVII CENTURY.	XVIII CENTURY.	XIX CENTURY.
1410-34 central tower rebuilt; 1430 consecrated; nave; 1462-68 N. transept portal repaired; chapels.	1500 nave and aisles done; 1506 W. portal begun; 1546 W. rose; chapels; W. tower to 1590.	1611-38 W. tower; injuries; minor repairs.	1700 central tower burned; vaults restored.	1841-2 S. portal reconstructed; 1868 sacristy; restorations by Millet.
.....	.....	.....	1786 minor internal changes; chapter restored; 1796 choir and transept destroyed.	1805 repairs done [transept and apse not rebuilt].
.....	.....	1634-63 restored; 1663 consecrated.	.....	.....
.....	1576 part destroyed; rebuilt; tower; N. chapels.	Restored.	Additions; W. façade restored.	Belfry; restoration projected.
.....	.....	1601 internal furniture.	.....	Restored by Révoil.
.....	1568-78 great Huguenot injuries; tower destroyed.	1604 rebuilding begun; 1660 tower rebuilt.	1730 internal changes.	1806 tower fell, 1820 rebuilt; 1838 towers removed; 1858 W. porch; 1864 tower done; restorations.
1453-1494 nave rebuilt, chapels; 1436 Lady chapel vaults; 1478 W. façade; 1484 W. porch done.	1504 S. transept; 1516 central tower removed; 1517 N. transept.	1630-37 chapel S. Vincent Ferrier.	1768 nave vaults rebuilt; 1770 choir demolished; 1771-4 rebuilt; 1776 choir vaults.	1824 spire fell, rebuilt; 1856 chapel S. Jean demolished; 1868 W. façade; 1875 W. portal rebuilt; restorations.
Internal changes; apse modified.	.....	.....	.....	1812 nave vault rebuilt.
1413 S. tower; rebuilt; rebuilding continued.	1543 nave done; chapels; S. tower spire fell.	.....	1793 abandoned.	1817 removed.
.....	1510-15 cloister; 1525 chapel l'Assomption.	1648 city became French.	1755 W. choir and all over vaults burned; repairs; W. towers before 1780.	Restoration by Bœs-willwald.
.....	1725 chapel built; 1743-54 church built; chapel removed.	1843 consecrated; Lady chapel restored.
4 bays nave.	1515 nave vaults; 1533 W. façade.	1869 fire; N. tower injured.
.....

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The following list includes only works actually consulted in preparing the foregoing tables. A few important titles have been admitted as no copies are known in America. It is not a bibliography of French architectural history, for many works on this subject do not touch specifically upon the histories of the cathedrals. Neither is it a complete bibliography of the literature of the cathedrals. This literature is exceedingly rich, though the complete history of many of the cathedrals has yet to be written, and books referring to many others are wholly inadequate. Much of this material is to be found only in the publications of the French archæological societies, and is not referred to specifically, such publications being only mentioned by the serial title. It should be remembered, also, that the books in this list are of very unequal value, some of the most insignificant, however, being the only works on their particular subject, could not well be omitted.

Books containing references to more than one cathedral are placed in the general list. Special books on special churches are named separately. This division is made for economy of space alone, and without regard to the importance of the publication, for in a number of instances the more valuable book is a general one, not named under the town itself.

General histories of art, books without text and monographs on glass are omitted altogether.

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GENERAL.

I.

ENGLISH.

Works in English on the cathedrals of France are wholly inadequate. Most of them were published in the early part of the century and are without the value of the broader archæological scholarship of more recent times. There are no general or special works of any value, in English, relating to the cathedrals.

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THE ÉCOLE DES BEAUX-ARTS.

Second Paper.

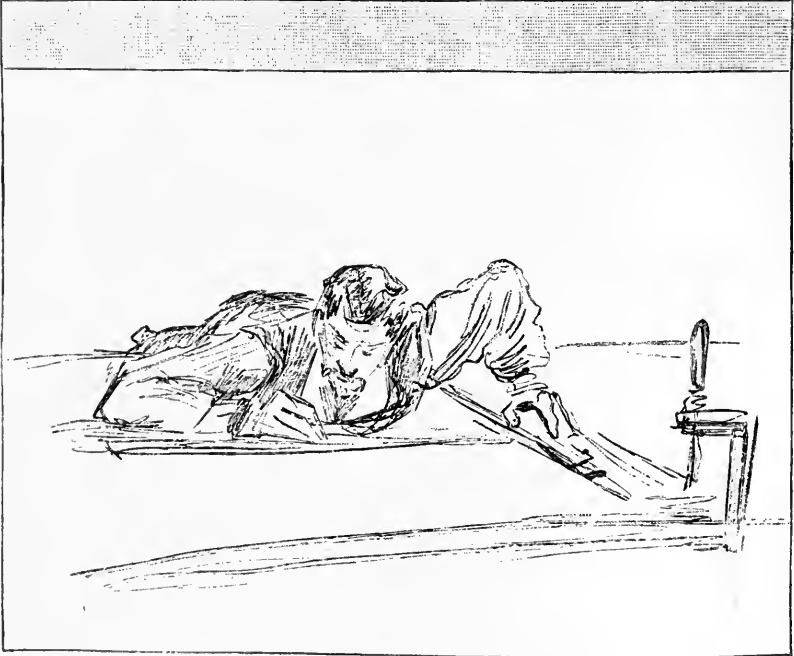


THE architect, says Vitruvius, should know how to write and draw; he should be instructed in geometry, and not ignorant of optics; he should have a knowledge of arithmetic, and know a great deal of history; he should be deeply learned in philosophy and understand music, and have had some instruction in medicine, jurisprudence and astrology. The school is evidently of his way of thinking, for, besides all the professors of architecture, known as *patrons*, there is a professor for each of the following courses: * Ornamental Design, Perspective, General History, Mathematics, Descriptive Geometry, Stereotomy, Physics and Chemistry, Construction, Legislation of Building, History of Architecture, Decorative Composition, Literature, Archæology, History of Art and the Æsthetics, Drawing, Modeling and the Theory of

Architecture. Of these, the Theory of Architecture is to the others in importance as the sun in comparison to the stars, and it is the Theory of Architecture which occupies by far the greater portion of the time of the student at the school. But in order to gain admission into the first-class, one must pass examination and receive honorable mention in the History of Architecture, Mathematics, Descriptive Geometry, Stereotomy, Perspective Archæology, Construction, Drawing of Ornament, Drawing of the Human Figure, and of Modeling of Ornament in bas relief. He may attend lectures on all the various subjects, and if he feel disposed to push his investigations in any one or more lines, unbounded opportunities are afforded. On the other hand he may never attend any of the lectures, and the school with proper discrimination will require of him only such a degree of knowledge of the subjects enumerated, as it considers absolutely indispensable for the architect to know.

With the exception of construction, which takes the best part of a year and

* Lemaistre, to whose excellent work we are indebted for the accompanying illustrations,



RENDERING.

is done chiefly in the *ateliers*, the work of securing these necessary mentions is done by the student at the school proper and at odd times between *projets*. The *projet* is the main affair with which he has to deal; it is by means of the *projet* that he learns the Theory of Architecture. Six *projets* are given to each class in a year; these are veritable competitions. They are issued alternately, one month to the first class, and the next to the second. The preliminary sketch (*esquisse*) is made at the school, and twelve hours are allowed *en loge*. The scenes enacted at the *esquisse* are very similar to those described at the examination in Architectural Composition, with the exception that the time before *déjeuner* is chiefly occupied in initiating the *nouveaux*, when there are any to initiate. These unfortunates are lucky if they escape with a whole skin and sound limbs; after the ceremony they are expected to treat their tormentors. The programme of requirements for the competition is handed each one upon entering. The sketch of the proposed building, by plan, elevation and section, drawn to a small scale, may be made somewhat roughly, but must not be too indistinct; it is accounted an evidence of skill to make the sketch as vague as possible without overstepping the forbidden mark, in order to leave room for subsequent study and change. The original sketch must be signed and left at the school, the student providing himself with a tracing to show his *patron*. If the *patron* approves he may render, that is, study the problem and make the elaborate drawings required; if not, he must wait two months for the next opportunity to try again. Meanwhile he may devote his attention to securing a mention in Archæology, Drawing, or some of the numerous other subjects necessary to his advancement toward the final diploma.

In working up the problem, the general lines of the sketch must be adhered to, but changes may be made in proportion and details. An experienced hand will make his *esquisse* just definite enough to avoid being placed *hors-de-concours*, but sufficiently vague to allow

of considerable latitude of interpretation.

Besides these two months *projets*, there is what is called the *esquisse-esquisse*, that is a programme to be completed entirely *en loge* in a single day. These also occur for each class, at intervals of two months, so that both the first and second class have an *esquisse-esquisse* and a *projet* every two months alternately at intervals of one month.

As the *esquisse-esquisse* is made entirely without advice and without the aid of documents, it is much more difficult to obtain a mention for it than for the *projet* of two months; but for those fortunate enough to receive such a recompense for the *esquisse-esquisse*, then the work of this one day counts for as much toward advancement in the school as a mention on the larger programme of two months.

The regular occurrence of these *projets* of competition may be called the pulse beats of the institution. It is they which send the life blood of energy and emulation coursing through every member of the body in regular recurring bounds of increasing effort, from the preliminary *esquisse* to the final *rendu*. After the *esquisse* the student generally amuses himself for some weeks, or grinds on mathematics and other necessary matters until, realizing that the allotted time is slipping by, he sets himself seriously to studying the problem. When the preliminary studies are sufficiently advanced, and the *patron* satisfied with the result, the student proceeds to make on Whatman paper, the *rendu*, or the finished drawings, which must reach the school by twelve o'clock of the appointed day.

In the foregoing, frequent reference has been made to the *atelier* and the *patron*, two all-important institutions at the school. The word *atelier*, as understood by the student of the school, has no equivalent in the English language; neither has the word *patron* as applied to the chief of an *atelier*. The Government provides three free *ateliers* for architects situated on the premises of the school, each presided over by one of the most distinguished architects of France, who is known as the *patron*. The chief instructors in the other

branches are known as professors; but the master from whom one learns the great, fine art Architecture, is something more than a professor. To be the *patron* of a school *atelier*, he must have arrived at the top of his profession. They are almost invariably men who have won the *Grand-Prix de Rome*, and are government architects, often members of the Institute, and all engaged in the active practice of their profession. They visit their *ateliers* two afternoons a week to give criticism and advice. Besides the three free *ateliers*, which are called inside *ateliers* (*ateliers intérieurs*) there are numerous outside *ateliers* (*ateliers extérieurs*) located in the neighborhood of the school, each under an architect of distinction. In the latter a small monthly fee is charged which, however, need not be paid if the student does not render. The company in the outside *ateliers* is somewhat more *chic* than in the others, and the student receives more attention from the *patron*, as there are generally fewer pupils. The *patron* pays the rent and visits the *atelier* at stated intervals, and there his functions cease. All other affairs, both financial and administrative, are conducted by the students themselves. The latter are divided into two classes, *les anciens* and *les nouveaux*. The former govern and the latter obey.

The officers of the *atelier*, elected by the *anciens* from among their number, are a *massier*, or treasurer, who is the chief officer; he is generally a popular man and of ornamental appearance, as befitting one holding a post of such high distinction. It is he who does the honors of the institution upon state occasions; it is he who receives the *patrons'* cane and hat when he enters; it is he who sits at his right at the annual dinner and proposes the health of our beloved master. Being called to fulfill so many high functions, the ordinary affairs of the office are beneath his dignity; therefore, he has an assistant, called a *sous massier*, who does the dunning of delinquent members, and attends to the purchase of coal, oil, towels, soap, and the thousand and one other necessary supplies, but the *massier*

keeps the funds in his pantaloons, as ours used to say.

The second officer is the *Bibliothécaire*, or librarian. As his, too, is an office of some distinction, he also has a *sous Bibliothécaire* who does the work. Then there is the *Caporal des nouveaux* who makes the *nouveaux* work; he is appointed from among their number.

The student pays the *patron* 20 francs (\$4) a month, provided he renders. He must also pay to the *mass*, as it is called, or the fund in charge of the *massier*, 5 francs a month, whether he renders or not. Upon entering, the *nouveaux* pay to the *mass*, as an initiation fee, 65 francs. The *mass* also receives considerable sums from fines, of which there are an incredible number, but which seldom exceed 5 cents. All the expenses of the *atelier*, with the exception of the rent, are paid from the *mass*; any surplus remaining is devoted to the purchase of books for the library. Upon entering the *atelier*, one is a *nouveau*, and as such must render implicit obedience to every individual *ancien*. He must also fulfill other duties without special orders, such as lighting lamps, cleaning drawing boards, going to buy refreshments for the *anciens* at four o'clock daily, and a hundred other menial offices; on the *le dernier nouveau*, or the last newcomer, devolve all the most disagreeable tasks. The *dernier nouveau* is always asked to run of errands if he is present, and it is he who must pull the *charette*, or cart, with the drawings to the school on the day of the *rendu*. One may enter the *atelier* without having been admitted to the school, but he can never become an *ancien* until he has been admitted, and even then not until he has been a member for at least a year and rendered a certain number of *projets*. The choice of an *atelier* is left entirely to the student; thus he may choose for a master the man whose work is most congenial to his tastes.

Having passed my examinations and been received at the school, it became necessary to select an *atelier*. I had been in Paris now for some time and had determined for a variety of reasons to join the *atelier Blondel*, an outside

atelier in which there were no Americans. Monsieur Paul Blondel is a man with brilliant record and now in the prime of life; he had won every prize in the school, including the *Grand Prix de Rome*; besides his large practice he was architect of the Government. His *atelier* was one of the youngest in Paris, having been in existence only about five years, but during that time it had secured much more than its share of honors. Monsieur Blondel had the well-deserved reputation of taking more pains with his pupils than any other *patron* in Paris. His own work was stamped with that character, manly refinement and elegant originality which one sees in the works of Duc, whose friend and ardent admirer he was.

I presented myself at the residence of Monsieur Blondel, that being the custom, and asked permission to enter his *atelier*. He received me kindly, asked many questions, and finally told me to call next day at one o'clock, when he would take me to the *atelier* and introduce me to my future comrades. Accordingly the next day I enter the *atelier*, in company with the *patron*, and find myself an object of critical regard by about thirty young men who have on long yellow gowns exceedingly dirty. The *patron* announces to the company that he has brought them a new comrade, an American, but does not attempt to pronounce my name. He then proceeds with his regular round of inspection, going to each student in turn. The rooms are extremely quiet, not a sound is heard; if anything is said, it is in an almost imperceptible whisper, and I, *nouveau* that I am, form an entirely erroneous impression of an *atelier* and think it a quiet place. I do not realize that the deity of the *atelier* is present, and that this hush is out of respect for the man whom everyone present, with the exception of myself, regard with feelings of admiration bordering on reverence. I find myself with nothing to do but to take in the surroundings; everyone seems to be intensely occupied. The *atelier* consists of five or six rooms of liberal dimensions, and had formerly been an apartment. They are decorated below

the ceiling with a sort of frieze in black and white, being the silhouettes of all present and former pupils arranged in the order in which they had entered. There is also the silhouette of Bub, the dog of the *atelier*, a sad-looking mongrel, at present reposing under the stove. On the walls are several magnificent *rendus*, which were made by the *patron* at Rome, and also casts from the frieze of the Parthenon, and a number of pictures and drawings of questionable morality. Not knowing exactly what to do, I decide to go home, but I am not to get off so easily. Before I reach the door, I am intercepted by a portly young man, *Delorme* by name, called *Philibert* by courtesy, *caporal des nouveaux*. He introduces himself politely, and asks if I am aware that it is the custom of the *nouveaux* to treat the *atelier* to drinks. I signify my willingness to comply with the custom.

"Not now," he says; "you understand there are not enough present; I will put up a notice so that all may be here." He also says, "I can speke English, steamship, plum pudding, vater clo-set, oh ye—yes, God damn."

He then relapses into his native tongue and tells me to go into the kitchen and help the other *nouveaux* stick paper on *chassis* or stretchers, of which there are to be provided thirty-five enormous ones for the approaching *charette*. I am asked if I can work that evening and am told to be on hand sharp at seven o'clock the next morning. The first class are rendering and the next day is the *charette*. *Charette* is a word very much used in the *atelier*, where it has a variety of meanings unintelligible to the uninitiated. The *charette* is the hand cart used to carry the drawings to the school. In the process of time the word has come to be applied to the last days of the *rendu*, and as it always happens that every one is behindhand at that time the phrase *en charette* in *atelier* parlance means behindhand with one's work.

I reach the *atelier* early the next morning. Lo, what a transformation! It is my first experience with a *charette*; things appear in inextricable confusion and all is bustle and excite-



LA CHARRETTE.



INSCRIBING THE PROJETS.



STAMPING THE SKETCH

ment. The whole force of the *atelier* has turned out, drawings are being stretched on frames, borders painted, blue bands being pasted on and the last finishing touches given; on some single drawings, which are behindhand, there are three, and even five men working. Early as it is the *patron* is present giving his final orders; he has been there since six o'clock; he soon finishes his rounds and the confusion increases tenfold, for every one begins to talk. The men who are rendering look haggard and worn out; many of them have worked all night; some have worked forty-eight hours continuously. Yesterday afternoon not one of the thirty-five great drawings was finished; to-day at twelve o'clock all must be completed, mounted on frames and delivered at the school. In spite of the apparent confusion the work goes on with a precision and neatness which excites my admiration and I realize that the *atelier* is a splendidly trained organization. As the drawings, one after another are completed and stood against the wall they present an extremely fine and workmanlike appearance, well worthy of the pupils of Paul Blondel, who holds a reputation for technique second to no man in France.

I, being the *dernier nouveaux*, and another *miserable* are ordered to go for the *charettes*. We go to a stable where hand carts are rented, and each haul one to the *atelier*. The drawings have been brought down to the court and are quickly loaded. I am harnessed into the shafts, other *nouveaux* push, and the whole motley crowd start on a run for the school. It lacks but ten minutes of twelve, and at twelve the gates will be closed. Half of the men have not taken the trouble to divest themselves of their gowns. The *anciens* wear their straight-brimmed silk hats—a curious spectacle we present as we dash through the crowded streets, and one which affords no small amusement to the public. As we turn into the *rue Bonaparte*, we meet *charettes* from other ateliers, and noisy greetings are exchanged. The drawings are taken to the *Salle Melpomene* where *Monsieur Barbier*, sitting at the feet of the god-

dess, makes the proper entry in his register while his assistant affixes the official stamp. When the last drawing is registered, the whole *atelier* proceeds to the *café aux deux Magots* to drink *Vermouth* at the expense of those who render.

Having disposed of the *projet* a period of relaxation ensues, and *les anciens* have time to devote their attention to the initiation of *les derniers nouveaux*, of which there are nine, a number unprecedented in the history of the *atelier*; so it is determined to have a celebration somewhat out of the ordinary. Some one says it will be monotonous to go nine times in state to drink at the expense of each representative *mulot*, and suggests that it would be more pleasant and amusing to combine their resources and give a grand dinner in the *atelier*, after which could follow the initiation, or reception as they call it.

The management of the affair was rashly intrusted to the *nouveaux* who were to pay, with the result that probably a worse dinner was never served up to man. The food was sent from one of the cheapest restaurants of the Latin quarter, where cheap restaurants abound. The dinner was to consist of soup, three courses, a plum pudding, which they told me was in honor of America, wine and coffee, the whole to cost something over one franc per head. To say that the food was bad does not express it, and as for the wine, the smell was enough when it was poured out, the dregs filled at least a third of the glass.

My share of the expense was so ridiculously small that I felt I could afford to send some bottles of champagne, and the *patron*, whose son was to be initiated, sent a few more. The whole day was spent in decorating the *atelier*; the largest room was cleared, and the great drawing boards were arranged to form tables; the stools were to do duty as chairs. Hardly were the company seated, when every bottle of champagne disappeared from the board, each seized by the man nearest to it and deposited under his stool, in the cellar (*dans la cave*) as one expressed it. In spite of the food, a jollier company was never assembled and,

strange to say, every one but myself seemed to relish the viands.

The three courses were served without change of plates; when these were finished, the plates were turned over and the backs used for the pudding. Besides having to foot the bill, *les nouveaux* were required to wait on the table, and it was only after *les anciens* had finished that they were allowed to regale themselves on the cold remnants of the feast. One poor white-headed *nouveau* sat next to the burly Philibert Delorme, *Caporal des Nouveaux*. To such a state of intimidation had this young man been reduced that he dared not even remonstrate when that worthy functionary, at the end of every glass, deliberately poured out the dregs, a good third, on the top of his head.

The ceremony of initiation varies with the humor of *les anciens*. It usually consists in undressing the victim, and painting his body with a variety of strong colors, Prussian blue and lamp black being much esteemed for the purpose. In this condition the *nouveau* is required to mount on the table and sing. This time the first *nouveau* operated upon, not only sang, but he made such a long address that the whole company became heartily tired of him, and it was with difficulty that he was driven from the table. *Les anciens* had had enough, and to my relief, instead of proceeding with the others they devoted themselves to song.

I found this part of the entertainment more to my liking, for the music was excellent. The first song was in imitation of church music and apparently would have done honor to the nave of Notre Dame. The voices were fine, and as the stately chords rolled out I closed my eyes to the uncouth surroundings as I listened. Then I wondered no less at the majestic beauty of the refrain than that such music should be heard in such a place, for I did not suspect what I afterwards learned, that the words which accompanied these glorious sounds were a tissue of blasphemy and immorality of a kind dear to the heart of "*les types d'atelier*."

The social life of the *atelier* is an experience which no one can adequately describe and no one appreciate who has not tried it. It is a life altogether unlike anything to be found in lands where English is spoken. The character of the members, if not moral, is at least happy. Nothing dampens their spirits and nothing disturbs their good humor. Work goes on merrily amidst a continual flow of good spirits. No matter how much pressed and driven, everyone seems to enjoy life. Something of interest is always happening. Music is the favorite diversion. I was surprised to find that nearly every one could play on some kind of an instrument, and there were several who could play on a half a dozen different kinds. Indeed the *atelier* had a veritable orchestra. There was a piano hired by subscription, five or six violins, a bass viol, drum and a number of wind instruments, and withal no lack of music, for it may be said some one was playing all the time except during the visits of the *patron*. Many had fine voices and when the *atelier* was not *en charette* one often heard music well worth listening to.

That these young men have bad traits cannot be denied, but to offset them they have good qualities of a very lovable kind, there is a loyal feeling of comradeship among them, also an utter lack of selfishness. The generous way they work for one another is surprising to one of Anglo Saxon blood, who as a rule does not feel called upon to work for days and often even all night long for a comrade behindhand with his work, but such devotedness is of continual occurrence at the *atelier* where it is considered a matter of course. They belong to a kind-hearted race, polite because it is natural for them to be so; their politeness is no affectation, but the reflection of an instinctive respect for others' feelings; and I, who entered the *atelier* with prejudice and dislike, left it in a far different frame of mind, desiring no better or truer friend than a true-hearted Frenchman, and I found many such among my forty odd "*Camarades d'Atelier*."

Ernest Flaggy.



ARCHITECTURAL ABERRATIONS.

No. 10.—THE NEW CRIMINAL COURT BUILDING, NEW YORK.

IT is rather curious that, in the excess of discussion that has attended the competition, for the design of a new City Hall, and followed the collapse of that competition, no notice should have been taken of the one ambitious architectural project that has actually been carried into execution under auspices practically the same as the auspices under which the competition for the City Hall was conducted. That project was the project for the new building for the Criminal Courts, and an attentive consideration of it would have let in a great light upon the methods of our municipal officials in providing public architecture, and the degree of success that is likely to attend those efforts. It is true that in the case of the building for the Criminal Courts our municipal rulers did not invoke expert aid at any stage of the process, whereas in the project for building a new City Hall they invoked such aid at every stage. The Mayor says they invoked too much, and it seems as if they must either have done that or invoked the wrong kind; or else the competition would not have turned out to be so complete a failure. But this conclusion is hasty. The initial iniquity of the whole procedure was the determination

to pull down the old City Hall, the one public building New York possesses that is at once architecturally respectable and historically venerable, in order to make room for an architecturally unknown quantity. The demolition and erection would additionally sacrifice what is left by the Postoffice and the minor buildings, including the Tweed Court House, of the old City Hall Park. This iniquity was not perpetrated by the consulting architects. It was imposed upon them as a necessary condition in the preparation of their scheme. Doubtless they were as well aware of the iniquitousness as any other equal number of enlightened citizens. It does not appear, however, that they protested against it. It does appear, however, that they drew up a very intelligent and liberal programme, which was calculated to attract all the architects who could be drawn into any open competition whatsoever. If the whole business, site and selection included, had been intrusted to them, the competition would doubtless have been successful in the selection of a creditable design to be executed in City Hall Park. That would have been a municipal misfortune. It was averted by the thoughtfulness of the officials in reserving to themselves the final selection, and by their inability to make a final decision out of the designs chosen for

them by their professional advisers. One of the advisers explained afterwards that the officials were at liberty to disregard this choice and take their pick out of the whole number of designs submitted. In this case what were the expert advisers employed and paid for? If he had explained this beforehand, it is quite possible that none of the designs chosen would have been submitted at all, since these designs were presumably by architects of standing, and since it is inconceivable that an architect of standing would have prepared a design to be submitted to the unaided judgment of the municipal officials, on the chance that the municipal officials might like it.

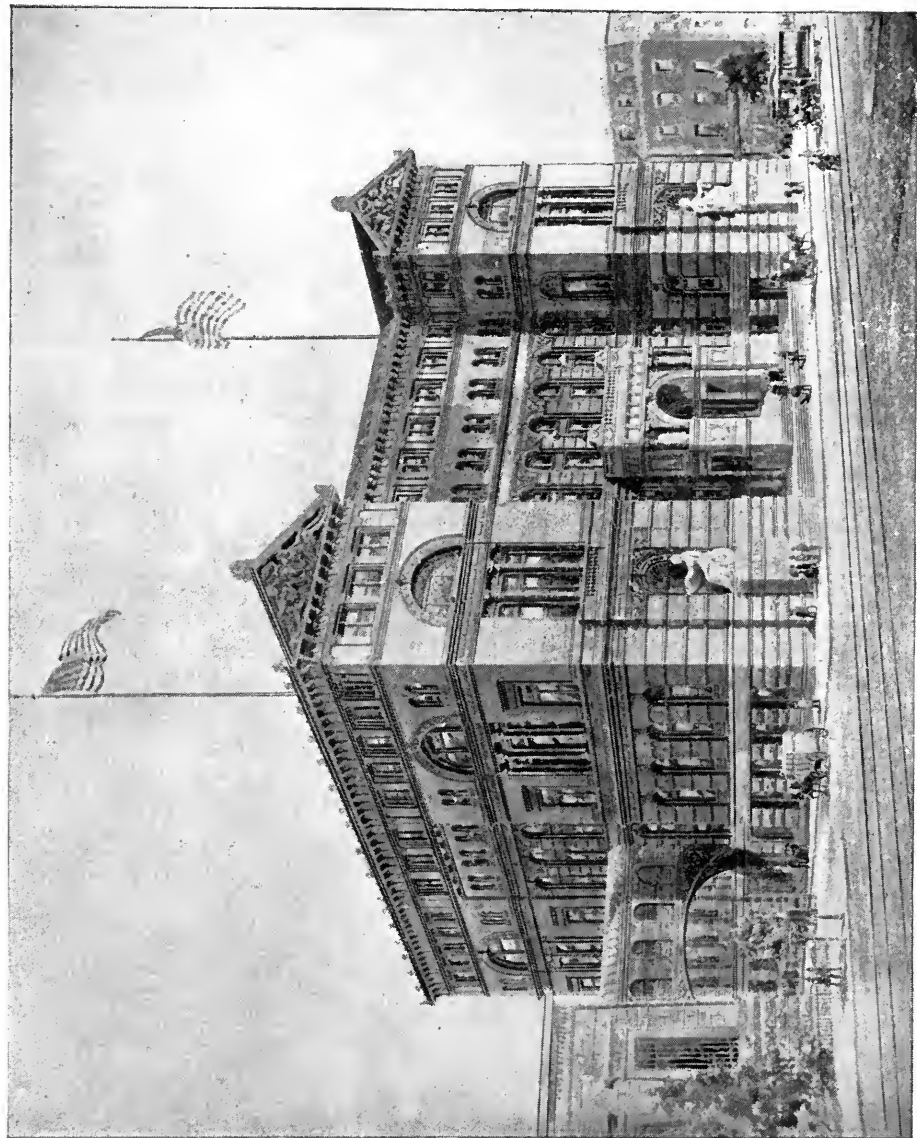
But that the failure of the official authorities to make choice of a design is not in the least a reflection upon any of the premiated competitors, is vividly clear from the designs of which the official authorities did make choice when the question was of a new Criminal Court building. If the officials of New York like that, any artistic architect may very justly say to himself, Heaven forbid that they should like my work. As a matter of fact the competition which has resulted in the erection of the Criminal Court building did contain some respectable though misguided architects. How a respectable architect (professionally respectable, of course,) could have allowed himself to imagine that a design which represented what he could do stood any chance of being accepted is one of the mysteries of competitions. Perhaps each competitor believed himself the happy possessor of a "pull," in which case none of them deserved better than to have the existing building erected.

It is the unfortunate City of New York that is really entitled to our sympathy. We cannot fairly say that it has deserved anything quite so bad as this building. Fortunately for the city, the site of the new building is at present obscure and little frequented. Few persons have occasion to resort to it, except judges and criminals and criminal lawyers. The judges do not care about these things; the criminals dislike it, not because it is an ugly and

vulgar building, but because it is a court of justice, and would dislike a better building quite as heartily; the criminal lawyer, if they be of the shuyster class, doubtless like it, from natural affinity. The great majority of the population are happily spared all knowledge of it. The "Elm street improvement" if it is ever brought to pass, will bring the Criminal Court Building into the sunlight of publicity, a fact which furnishes an argument against the execution of the Elm street improvement.

Upon the whole the Criminal Court building is the most discreditable edifice the city has ever erected. Everybody knows who knows about the matter that the municipal architecture of New York in its ordinary manifestations of school-houses and police stations and engine houses is nil. The city has been in the habit of intrusting its work to builders of tenement houses, who have built tenement houses for its purposes. It has had no architecture at all. This building looks as if it might have been designed by a builder of "tasty" tenement houses, with huge, umbrageous zinc cornices, but as if he had been goaded by his new and enlarged job into an architectural ambition. The common building of the city is an architectural vacuum, but this, to follow Mr. Hewitt, is the minus quantity on the other side of the vacuum. The absence of architecture here becomes positive, militant and obstreperous, insomuch that it is not possible to overlook the structure, when once it has encountered one's notice.

The building is full of "features" like all buildings in which an incompetent designer finds himself goaded to do something important. They succeed in converting its dullness into restlessness without relieving the dullness. The most painful of these features are the big porch in front of the centre, and the two openings on each flank, and the one in the front of each wing that run through two stories. These latter are so very painful and awkward that the charitable observer is disposed to believe that they result from an innocent though unskillful endeavor to express a galleried room. When he penetrates



New York.

THE NEW CRIMINAL COURT BUILDING.

the interior he finds that this is not the case. The big semi-circular windows come to the floors of the rooms which they illuminate, and are just "architecture." We rather suspect the designer of an intention to plagiarize the Lenox library, in the general form of his building, but this suspicion may be unfounded, since it imputes to him a capability for admiring simplicity and dignity, an imputation which his work does not in the least justify. But a comparison of the two buildings is nevertheless instructive as showing how widely two somewhat similar ground plans may come to differ in the working out, when one is worked out by an architect and the other by an architect.

The cultivated observer will see from the illustration that the building is extremely bad, though he will not make out its full badness from the illustration. Nothing could be more distressing than the general scheme of two narrow-gabled and projecting wings flanking a wide-recessed centre. It is conceivable, of course, that this arrangement might be forced upon an architect by the exigencies of his ground plan, in which case an expressive treatment might have atoned for, by making intelligible, a disposition that would not occur to any instructed or sensitive person as an ideal form. Here, however, there is no reason in the plan for the arrangement, the interior, behind the recessed centre, being a recessed court, while the exterior effect of the two terminal slices is most painful. Still, even with this ground plan something might have been done, by setting the superstructure on a massive basement of moderate height, and

crowning it with an attic containing the subordinate rooms. Instead of this the basement is carried up so as to include one of the principal stories, and thus enters into active competition with the superstructure. In fact, it is impossible to say which is the principal division of the building. Proportion is thus put out of the question.

We have said that the illustration fails to expose the building completely. For one thing it does not render the color, which is peculiarly atrocious, being a combination of light granite, brownstone and a brick the color of which is acutely painful in connection with the brownstone. What is more important is that it is on too small a scale to exhibit the detail, which very greatly aggravates the effect of the general disposition and the multiplication of the features. It is all as crude, as unstudied and as illiterate as possible. It would vulgarize the Parthenon. It is superfluous to add that the designer has taken great pains to make the stone-cutting curious and emphatic. Such is the custom of the architect.

If this abominable edifice were built in Oshkosh we should, in our superciliousness, call it Western. It is what is to be expected where architectural design is reckless, hasty and uninformed. It may be seriously questioned whether there is anything in the West so Western as this. Anything more Western there could not be. And this is the monument chosen by the municipal rulers of the richest and biggest and one of the oldest of American cities. The Tombs alongside of it, built two generations ago, takes on an aspect of new distinction since the advent of its disorderly neighbor.



ADDITION TO THE BUCKINGHAM HOTEL.

New York City.

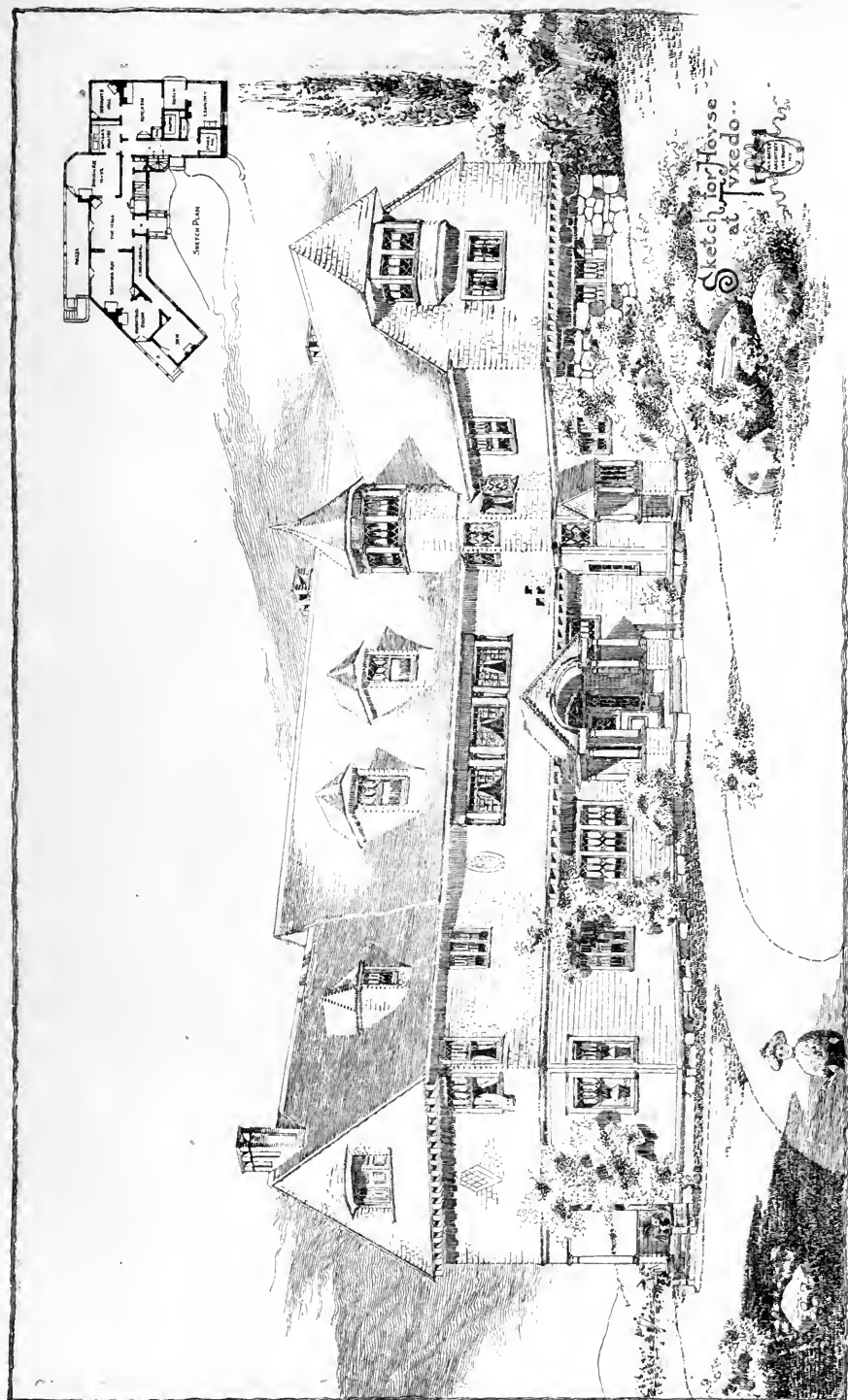
R. W. Gibson, Architect.

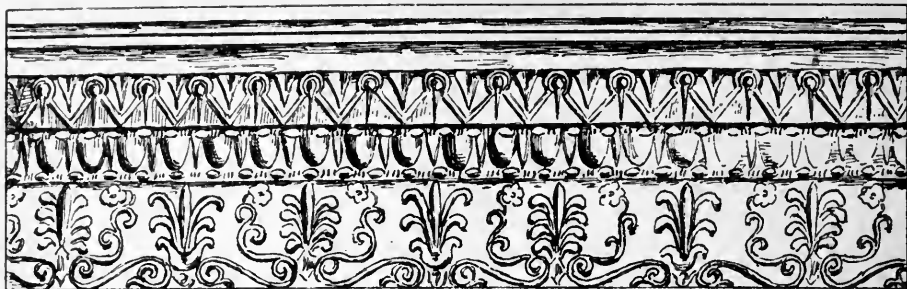


BOLKENHAYN.

Fifth avenue and 58th Street, New York City.

Alfred Zucker, Architect.





WASTED OPPORTUNITIES.

No. III.



WE present to our readers for comparison a plan of the building on the northeast corner of La Salle and Monroe streets, in Chicago, just being completed, with an alternative plan and schedule of differences. We wish to again call attention to the fact that we do not wish to be considered as casting any personal reflections on the architects, nor doing otherwise than calling attention to the difference in the treatment of the building, considered purely as an office building, there being doubtless conditions incidental to its use, which lead to the treatment in this particular way. We would also refer to the prefatory paragraphs in our two prior articles explaining our position.

An office building's prime and only object is to earn the greatest possible return for its owners, which means that it must present the maximum of rentable space possible on the lot, with every portion of it most fully lit. The points to be considered are:

- (a). Ease of access.
- (b). Good light.
- (c). Good service.
- (d). Maximum of rentable area consistent with true economy.
- (e). Ease of rearrangement to suit tenants.
- (f). Minimum of cost consistent with true economy.

The building as it stands is approximately 80 feet by 142 feet, with the west front on La Salle street, the south front on Monroe street, the north front on a narrow alley, and the east end against a party wall. It is twelve stories high, with the principal entrance running from one street through to the other, the peculiar column arrangement being intended to admit of a monumental staircase on the first floor, between the two sides of which all persons entering must pass. The building is of the most approved type of steel skeleton construction, with each floor carried independently directly to the columns, but is without special sway-bracing, that being attained by the use of rigid column connections, assisted by the relative lowness of the building. On the ground floor a large hall enters from La Salle street and runs through in front of the elevators, with a wide entrance from Monroe street, the two entrances dividing the rentable space into practically three parts. On the second floor the large hallway of the La Salle street entrance is carried through and the court on the alley is floored over, giving three offices. From the third floor the office subdivision begins. In the typical floor plans there is a vault built in for each office and also a coat-closet, both occupying rentable area, which is credited to the office in our schedule. On the twelfth floor are placed the barber shop and toilets, running from the elevator east along the light shaft and then northerly

along the easterly wing, occupying a total of nearly 1,000 square feet. Every office is provided with a wash-basin, which is good.

(a). *Ease of access.*—There is practically no difference between the two plans, since it is feasible to have an entrance on La Salle street as well as on Monroe on both plans, although in the plan suggested the natural position of the entrance would be from Monroe street, as that would afford a perfectly lit hall at all times. The size of the elevator cars are somewhat smaller in the suggested plan, but they are still of sufficient size to perfectly meet the requirements of the building, while they can be considerably enlarged without curtailing the rentable space, should that be desired. The freight elevator is entirely removed, as being a fixture wholly unnecessary in an office building. Should it be felt that one was necessary, it could be placed in the stairwell. The location of the stairs is such that they can be preserved intact at all times regardless of a fire on any floor, it being possible to close them off by automatically closing fire-proof doors. The requirements of the stairs being simply to act as a relief in the event of a breakdown of the elevator plant, and therefore to be called but occasionally into use, their position is one of little importance, and the further away they can be placed the cheaper can their construction be without affecting the general tone of the building. The average distance of travel from elevator to office is rather less in the proposed plan than in the plan executed, but not sufficient to make it an object of very great importance one way or the other.

(b). *Good Light.*—The generally accepted requirement of good lighting is that every portion of the office should be within 20 to 25 feet of a window, and that that window shall not open directly to the south. It is to be hoped that some time the disadvantages due to a direct south light in offices will be fully appreciated, and the advantages of the court, with its long axis north and south more fully understood. We have gone into deep offices on a light day with a southern

exposure, and found electric light in use therein, simply because it was impossible to permit the direct sun to shine on the occupants close by the windows, and as a consequence awnings were used, which made it necessary to use artificial light in the rear. The office day is only one-third of the twenty-four hours, and is fairly well distributed on either side of the meridian, with the advantage a little in favor of the westerly side, and therefore it is desirable that the long axis of the court should be a few degrees east of a north and south line, so that the sun's rays can penetrate to the deepest part of the court during the middle of the day, and reflect as deep as possible into it during all the other portions of the day. In the building under consideration, the plan as it is shows eight of the offices facing the south, which, as we have seen, is a disadvantage. There are four offices which face the west, and the remaining five are within a court whose long axis is east and west, and therefore there is not much likelihood of there being direct sunlight in the offices at all; at the same time there is not much likelihood of the offices being as satisfactorily lit as they should be. If the court were put in as shown on the plan, as it should be, there are but four offices which directly face the south. The light court, which is 25 feet wide in one case and 12 feet 6 inches wide in the other, opens directly on the street, and, as a consequence, every office of the twenty-eight, save three, may be considered as fronting on the street, since from every one the street is visible until the stories in close proximity thereto are reached, when their value is enhanced by reason of the superior light and nearness to the street. Whether the portions of the building are rented separately or in large areas, the light throughout every portion of the space rented will be amply sufficient, and this is secured, as will be seen by the schedule, at no loss of rentable area. A further advantage of the north and south court and the particular arrangement presented is that the prospective tenant carries with him, from the time he enters the build-

ing until he leaves it, the feeling that it is light, that it contains no dark corners, and that this effect is gained without artificial aid. The acknowledgment of limitation of light from a window is had in this plan, where it will be seen that the architects have provided for offices going back only a distance 21 feet 6 inches, with the rear of 4 feet condemned for all use by reason of the vaults being built therein, which, with the arrangement of the doors, makes it impossible to set a desk even for an office boy further from the window than about 15 feet. With the vaults removed, there is an available space for this purpose.

(c). *Good service.*—There is but little to choose from between the two plans. The plan as it is provides slightly larger elevators, which is not of as much importance as their speed. The stairways are somewhat larger, but that is of very little consequence, since the stairways are at the best only for use when the elevators are shut down. It is questionable whether in the emergency toilet a urinal is of as much value as a closet, and certain that in either event there should be a wash-basin provided. The provision of wash-basins in the offices is good, and the arrangement of the toilets on the top floor is also good, and the number of fixtures probably sufficient. A better arrangement could be made, of course, were the position of the stairs different and the freight elevator abandoned, since in that case an area of 400 square feet would be saved for rental purposes. In the question of the artificial lighting of the offices very great exception can be taken. The general use of bracket outlets nearly doubles the cost of the electric wiring installation, makes it impossible to remove partitions without very considerable cost, interferes with the use of the wall for hanging wardrobes and the like, and involves the use of portable fixtures in much discomfort. A far better arrangement is to have one central chandelier with three or four pendants, one in each corner of the room, leaving the side walls free to be shifted wherever the tenant's requirements dictate. The arrangement of the stairs in the plan suggested is such as

to serve all necessary purposes, at the same time removing them from interference with space that would be valuable for renting. Should one tenant require 9,000 or more square feet it would be possible to maintain circulation under all circumstances past that floor without interfering with the tenants of that floor.

(d). *The maximum rentable area consistent with true economy.*—By reference to the schedule it will be seen that in order to obtain an increased rentable area expenditures to the amount of \$25,000 are incurred, but that it is a wise economy so to do. This further illustrates the principle that an office building differs radically from any other building in its limitations and requirements, and as a consequence the principles which ordinarily govern the planning of buildings do not apply unchanged to the office building. In the plan as it is if all of the partitions in one floor should be removed so as to dedicate this entire floor to the use of one tenant it would be found that one corner of it would be divorced from all of the rest by reason of the position of the stairway and machinery shafts, while the central portion would be dark. In the plan as it should be the access between the two parts would be either through the vestibule in the front of the elevator, or else across a bridge thrown across the court. This at first would seem to be a disadvantage, but in every concern requiring for the prosecution of its business so large an area as 9,000 square feet the proportion of the space used by the public is ordinarily not to exceed 50 per cent of the total needed, so that instead of having the entire area on one floor, two floors would be occupied, one above the other; one floor being for the executive officers and the public, and the other for the clerks' and this would involve no particular disadvantage, but rather the reverse. If we should go beyond the 20 feet limitation in the plan as it is, extending the length of the offices along Monroe street, so as to gain 500 additional square feet, and credit that at one-half value, it will be seen that the rentable area is not yet all that it might be,

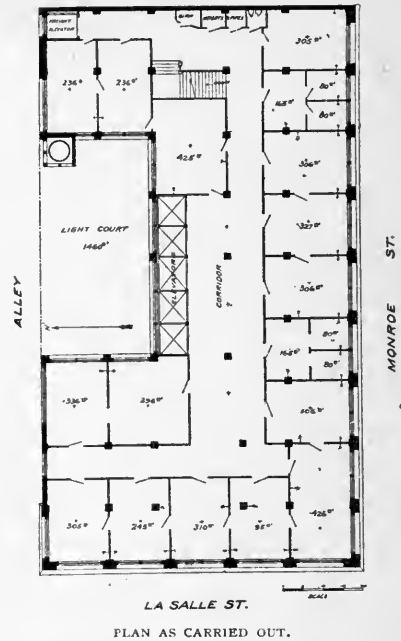
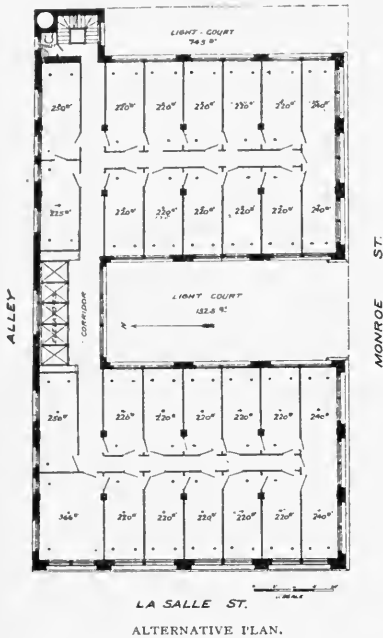
SCHEDULE OF DIFFERENCES.

DIMENSION.	As it is.	As it should be.	Credit.	Debit.
Number of columns.....	52	42	\$2,100	
Span of girders.....	17 ft. 0 in.	20 ft. 0 in.		
Span of beams.....	16 ft. 0 in.	20 ft. 0 in.		
External windows, per floor.....	44	52	4,800	
Elevators.....	6	5		\$3,000
Perimeter of walls.....	500	562	12,400	
Angles.....	8	10	800	
Height (approximate).....	165 ft. 0 in.	165 ft. 0 in.		
Court area.....	1,460 sq. ft.	2,270 sq. ft.		
Halls, walls and stairs.....	4,490 "	2,639 "		12,000
Net rentable area.....	5,410 "	6,451 "		234,225
Area of building.....	9,900 "	9,090 "		
Area of lot.....	11,360 "	11,360 "		
Cube of building.....	1,633,500 cu. ft.	1,499,800 cu. ft.		50,110
Percentage of light rentable space.....	100	100		
Total.....			\$20,100	\$299,335
				20,100
				\$279,235
Additional available area, $\frac{1}{2}$ value.....				57,600
Net debit.....				\$221,635

while the loss, by reason thereof, remains still at a considerable figure. We have based the capitalized losses at \$1.50 per square foot, capitalized at 8 per cent, and it will be seen that this represents a considerable fraction of the cost of such a building. Should it be desired, the second floor could be carried over underneath the light courts in each case, thus adding 25 per cent to the rentable area on one floor, and that one of the most valuable in the building; but no credit has been claimed on account of this. In the plan suggested, it will be noted that the area of the width of the corridor in front of the elevators is made somewhat less than that of the plan as executed, but when it is considered that this is entirely free from columns, and that one-half of the tenants come from one side and the other one-half from the other, it will be found to be more than sufficient. In the same way the side corridors are made narrower simply because the width as given is enough, and nothing is gained by making them wider, while there is a decided loss due to the necessity for carrying the paving of the corridor over that much greater area. In the plan as it is, all of the corridor partitions are shown with sashes in them, which

would be rendered unnecessary in the plan suggested, because with glass in each of the entrance doors, and with glass transoms over them, the corridors would be perfectly lit, while that portion requiring the most light, in front of the elevators, receives light from both the north and south.

(c). *Ease of rearrangement to suit tenants.*—This has already been referred to in connection with the position of the bracket lights. In the executed plan, it will be seen that the position of the columns very much interferes with the subdivision of the offices and of the arrangement of the hall space, since in the La Salle street front two columns occur in the centre of an office and are only saved from being a great nuisance by reason of the fact that fire-proof vaults are put in to fill in the space behind them. It will also be seen that the arrangement of the columns is very disorderly, and that columns occur at odd places in the halls, all of these interfering with the free use of the floor space, and making it exceptionally difficult to treat it architecturally and satisfactorily in the event of one tenant requiring any large area. The building in of fire-proof vaults in the offices interferes with any re-arrangement, making the same



perfectly impossible without going to a very considerable expense, which could not be borne unless the offices were taken for a long term of years. In the plan as proposed, these difficulties are of course entirely obviated, a symmetrical treatment of every portion of the office is possible, partitions can be readily removed and at a very slight expense, and the arrangement is such that even the hall paving could be utilized to advantage. The size of unit in the plan proposed is somewhat larger than is customary, but the location of the building is such as to indicate a class of tenants who would willingly take the larger sized offices. With the lights on the ceiling it is, of course, a simple matter to at any time remove a partition, giving the tenant as much office space as he desires in multiples of 220 square feet.

(f). *Minimum of cost consistent with true economy.*—In the plan as it is, recognition has been made of the fact that a moderate spacing of columns is at all times desirable, and as a conse-

quence there has been a credit allowed for the saving in the depth of girders and floor beams by reason thereof. The total saving in the cost of the framing is not, however, a very large item, the saving in the number of columns in the plan as it should be, being offsetted by the necessity for increasing their section somewhat on account of the need to support a larger area. In the case of the floor framing, the saving which would naturally be due to the decreased thickness of the floors is offset by the fact that a greater floor area is provided than is necessary for the service of the building, and that the unsymmetrical spacing of the columns requires numerous girders in odd places, preventing any advantage being taken of the reduction in height which could otherwise be effected.

The advantages of office building planning is finally shown in the great saving in the cube effected thereby without loss of rentable space, which lesson is further enforced by the totals given in the schedule.

CORRESPONDENCE.

To the Editor of THE ARCHITECTURAL RECORD:

In a recent copy of *THE ARCHITECTURAL RECORD*, the writer of a paper, entitled "Wasted Opportunities," has distinguished us by selecting, to his mind, as a satisfactory example of such, a building of which we are the architects.

It is conceded by him that the peculiar conditions which have resulted in the present ground plan "as it is," are unknown to him. If he chances to be a member of the profession, it is charitable to presume that the special environments of the building also are unknown to him, for otherwise we think it impossible that such suggestions as his plan, "as it should be," could have been made. Without giving the least consideration to these circumstances, the importance of which necessarily has determined the general development of our ground plan, your writer submits one of his own, boldly asserting this to be the plan "as it should be."

Your publication, in which the paper referred to appears, is not a professional one, reaching only members of the profession or those who are interested therein, but is a periodical which is sold on all news stands and bought by the public at large, and therefore reaches the eye of many not trained in architecture.

The paper itself deals with concise facts, that of a criticism and alleged improvement of a ground plan of a given building already erected from the alleged faulty plans. It necessarily must create the impression, whether intentional or not, especially among those of your readers who have no technical training, that a faulty, wasteful, ill-lighted and poorly-ventilated building has been planned, and thereby you appear to "have it in" not only for the architects, but also for the owners as well, who expect, of course, to receive the exact counterpart of what the paper intends to make the building appear.

It is for the reason that we consider it our duty to the latter to see whether your "anonymous" critic has not overstepped permissible bounds. The propriety of his action may justly be questioned, even if his plan "as it should be" could claim to be all what the writer asserts for it; but how will it be viewed when the positive absurdities and impossibilities thereof must be obvious to the most casual observer, who in any way is conversant with the ground plan and principal requirements of an office building?

It is of course unknown to your writer, as he admits voluntarily and as we stated before, that the facts before us in this case were:

"To provide one large office on the first floor making use of the entire area of the lot, the office space to be unbroken by incumbrances, such as elevator shafts, stairs to minimize the number of supporting columns, the entire space at the same time well lighted directly by skylights or otherwise, and also well ventilated by outside windows. Also to provide two similar floors on the second and third stories for a special purpose, also unbroken, and so extended as the requirements for light would permit."

It will be seen at once that the location of the elevators and stairs in the plan "as it should be" is in this case an impossibility, as it would divide each of the lower floors, and especially the ground floor in practically disconnected sections. This, however, is a matter of secondary importance compared to the following:

The building as it stands is flanked on the westerly side by a structure ten stories high; on the easterly side by a six-story building, but of course a few years hence may see this changed to one also thirteen or more stories high. Assuming this to be the case, we would have in the plan "as it should be" on the easterly and westerly side "shafts" ("they could not be called light courts") about 6 feet wide and from 120 to 200 feet high. Towards these shafts face ninety-six office rooms, deriving light from no other source. It goes without saying that almost total darkness would permanently prevail in all of these, except probably a few upper stories.

The main and intermediate corridors are not better off, also given up to perpetual semi-darkness, the only source of direct light being one stair hall window in a corner which admits light, where in this plan it is probably least needed.

Instead of overlooking from the office windows the life of a bustling city or a beautiful harbor, as is the case in our plan, the offices would all, except on the street front, face dead walls of narrow dark shafts, sufficient in our opinion to make those rooms forbidding and repulsive to an ascetic, not to mention to a New York business man, who is to be the prospective tenant.

As fanciful only can be looked upon the curious proposition to build a narrow extension on the southeast corner, which would be about

7x18 feet clear, and require three free standing walls, about 200 feet high, 2 feet wide at the bottom, according to law, thereby, in consequence, extending the narrow 6-foot wide shaft for further 18 feet in length.

We have yet to learn, Mr. Editor, that this can be called an economical and commendable construction, outside of the fact that the extension thus secured is not separately accessible, and evidently was only planned to show an increase of floor space, which practically is impossible to attain.

The only direction from which permanent and abundant light for the building erected on this site can be secured, at least for a long time to come, and perhaps forever * (the United States Assay Office being the rear neighbor), is from

* This is entirely an assumption, and a very unstable one. In Washington, to-day, a movement is on foot to appoint a committee to inquire into the condition of the Federal Buildings in New York City. The use of so small a building as that in which the Assay Office is housed on land so valuable, is one of the matters which (if the Commission be appointed) will receive particular attention. Should the land be sold and a large office building be erected on the site, what becomes of our correspondents' position? The "only direction from which permanent and abundant light * * * can be secured," would then be cut off. All that is said about light shafts would be applicable, but with much greater force to the building "as it is."—EDITOR.

While we cannot undertake to publish the comments of the architects of every building that we criticise, we are glad of this opportunity to explain and emphasize our position for the last time. As we said in the first article of this series, we are simply illustrating general principles, and "do not wish to be considered as laying the blame for any defects on the shoulders of *any one* person."

In the letter, which we publish, the architects state the conditions of the problems which was given to them by the client, and these conditions fixed the development of the plan, and therefore afford a reason for its development in that particular way, which is a case covered by our remark above quoted. But, however, because the client is responsible, the violation of fundamental principles is not, on that account, the less actual. Clients, we know, are frequently the cause of fundamental errors in plan and design, but is it to be maintained that the errors are not errors because the client desire an irra-

the south; a point your writer has not understood or deliberately lost sight of, building up a dead wall to this source of light with the results shown on his plan and further explained by us herein.

No further comments are necessary, and none in regard to the calculations of alleged wasted or ill-spent costs which accompany this erudition, the same being based on conditions which, as we have shown, conflict with fundamental requirements for the building in question.

A critique, written with a prejudiced or biased mind and applied to a concrete case, appearing in a periodical widely distributed and read, undoubtedly does injury to those who are connected with its object—in this case to the architects and owners.

If it can be shown that such critique contains gross errors and injustice, it constitutes the deliberate perpetration of a wrong, which should be righted.

We therefore request, Mr. Editor, that you will publish this, our side of the case, in the next issue of *THE ARCHITECTURAL RECORD*, giving it the same prominent place which you have vouchsafed the paper in question.

DE LEMOS & CORDES,
Architects.

tional arrangement. Certainly the architect is not to blame. He cannot convert all the heathen it is his sad fate to deal with.

Concerning the question of light, it is a matter susceptible of easy demonstration and within the range of observation of every one that the most effective dimension of any light shaft is the northerly and southerly one. The shafts in the plan as submitted by us have their long dimension north and south, and in that way afford an outlook over "the life of a bustling city or of a beautiful harbor" as well as in the erected building. The fact of the United States Assay Office being the rear neighbor was one known to us, but it is not permanent, as the architects admit, and inasmuch as the building is likely to be inclosed by other buildings on all sides in manner similar to the way in which it is on the west, they or their clients—whoever is responsible—must face the possibility of the light from the south being excluded by a building as high as their own, in which case they are in the unenviable position of having

one-fifth of the rentable area of the building facing on a court that is only 6 feet long in a northerly and southerly direction. In the suggested plan the fact of the long court running north and south along the easterly line would be an inducement for the adjoining property-owner to place his court in the same position, in which case it

would no doubt be made of a similar width. Were it made less, the benefit from it could be denied the adjoining property-owner by means of suitable screens.

As to other matters of which our correspondents speak, we must refer our readers for judgment to our original article.—EDITOR.



RAYMOND LEE.

CHAPTER XVII.

ON THE WAY TO THE OIL REGION.

“YOU are Mr. Lee?” began Balder, inspecting Raymond superciliously.

“Yes. Mr. Moyle told me....”

The City Editor interrupted. Mr. Moyle, he said grandiloquently, had spoken about Mr. Lee, had referred the possibility of giving him (Raymond) a position on the *View* to him (Balder). Furthermore, Mr. Moyle had said that Lee “had done considerable literary work.”

This reputation was evidently the outcome of some pious fiction of Ralph's. When Lee assured Balder that he could not lay claim to any such qualification the City Editor elevated his eyebrows in a way that as much as questioned the use of any further conversation.

“And, of course, you know nothing of New York?” he continued.

“Nothing,” replied Raymond, frankly.

“Well, young man, what could you possibly do for us?”

“Really I don't know, Mr. Balder. No doubt I have been very foolish to waste your time,” said Raymond, smiling.

This frankness pleased Balder; it so completely conceded the command of the position to him.

“No,” said Balder, with a trace of good nature.

“When I spoke to Mr. Moyle,” continued Lee, “my hope was that there might be some tyro's work that he—you—could give me to do.”

“Tell me what you have done.”

Raymond's answer and one or two questions which Balder asked disclosed an outline of the Eastchester life and its impracticable enthusiasms. Balder was interested. He smiled frequently during Raymond's recital, and paused many times in the course of drawing little figures upon the blotting paper in front of him.

"Queer training that for a newspaper, Mr. Lee," he said, finally.

"I can well believe it," said Raymond, "though probably I don't see its full ludicrousness as you do."

"Undoubtedly," said Balder, "or you wouldn't be here, I assure you."

"All I can say, Mr. Balder, is that if you can give me a trial—but I suppose the further I go the more foolish I'm making myself."

"Yes," said Balder, smiling. Raymond concluded that his first attempt to secure employment had failed. He felt disappointment rising within him and would have arisen and departed had not the City Editor leaned back in his chair and commenced to scrutinize him. Suddenly he asked: "Have you anything to do this afternoon?"

Raymond had not.

"Then there's one thing I'll get you to do. You know French?"

Balder produced a volume of a French Biographical Dictionary, and Lee was soon at work concocting a short obituary notice of a second-rate French scientist long retired from the world, the death of whom had been announced that morning.

Leaving Lee at work Balder went to luncheon, for Balder fed well, indeed, professed to be somewhat of an epicure—an insinuation that he had always been used to good living, and had not during his youthful years shared the frugal fare of his mother, a washerwoman, who still enjoyed the confidence and patronage of a number of families in a certain part of Lexington avenue.

When Balder returned, the few paragraphs required were finished. Raymond handed them to him. Balder read them, frowned once or twice, but he said condescendingly when he had finished: "Yes—that will do. However...."

Fleck appeared at that moment with a card. "Show him in," said Balder. "Mr. Lee, I'll see you in a minute."

The individual whom Fleck announced entered the room impetuously, as though the last moment for his purpose had arrived. Lee's attention was at once attracted to him, and Fleck, having conducted the visitor to Balder's desk, or, more strictly speaking, having run after him to that spot, lingered to scrutinize him. The stranger was a man of middle age, tall and thin. Prominent blue veins traversed his white forehead and imparted to that feature the vitreous appearance of porcelain. His eyes were black, small and restless. All his movements were quick and nervous. His clothes, provincial in style, had a neglected look that stamped them as part of the wearer's *impedimenta*.

"You're Balder?" he asked, peremptorily, in a staccato manner, as soon as he spied that individual. As he spoke, he seized a chair, and, sitting on it, hastily drew it close to the City Editor's knees. Then he stretched a long arm across that personage's desk and began to tap on it with his bony fingers.

"I got your letter. Would have called sooner—but couldn't."

"Yes, yes," assented Balder, disconcerted somewhat by his visitor's impetuosity.

Who would have imagined that *this* was the writer of that quiet, matter-of-fact letter? thought the City Editor. Here was a man most objectionable to Gods and little people—one without reverence; and Balder was in haste to impress his visitor with the dignity of the editorial position.

He withdrew his chair, and leaned back in it.

At once, the visitor retaliated by advancing his.

"I don't know whether you want to be put right on this matter," he said. "It's nothing to me—understand that. When I read the stuff you published—when was it?—day before yesterday—couldn't help writing that letter to you."

"Very good of you, Mr . . ."

Balder hesitated.

"Pulling," snapped the visitor, "not at all—I'm an old newspaper man—the general damager and chief mogul of the *Welltown Weekly Eye*. The *View*'s a good paper—for

some things—in the news line I mean. In politics it's asinine. But pshaw," he continued, condescendingly, "that's nothing—who cares for editorial opinion these days. We've got to the straw in *that* doll—eh?—know why its squeak is always the same when pinched—eh?—ha! ha! But that isn't the question. About this new oil field—as I told you in my letter—you are tee-totally wrong. The Jim Crow well was drilled into the sand the night before we left—and she's a gusher! She's doing . . ."

Mr. Pulling didn't give articulate expression to the quantity of oil that particular well was producing. He seized a piece of paper, wrote some figures on it, and with an air of triumph handed it to Balder.

He threw himself back in his chair to watch the effect produced by his statistics.

Evidently the figures did move the City Editor. He asked :

"How do you know?"

"Me!" cried Pulling in surprise. "Because," he added triumphantly, pushing his long forefinger closer to Balder's nose as he uttered each word, "I—was—there—when she was drilled in. She belongs to my friend Lawler—who's now in New York with me. He's—but never mind that. You newspapers are all on the wrong track. When we get back to Catch-On—down 'll go the boarding from the Jim Crow—then the world will see what the new Catch-On Field amounts to."

"But," said Balder, with hesitation, "our correspondent . . ."

"Your correspondent!" interrupted Pulling, derisively. "Who is he, anyhow?"

"Oh—well—now." Balder smiled.

"Yes—I know—Power behind the throne and so forth. You can't give it away. Well, don't. But I tell you the chump doesn't know what he is talking about."

Balder remained for a moment silent, viewing the piece of paper on which were Pulling's figures.

"Have you given this to any other paper?" he asked.

"No, sir," cried Pulling, angrily. "I'm not hawking my information about. I'm damned if I know why I wrote to

you, anyhow. We are ready now to give out the real facts about the well—and I thought I'd let the *View* have first whack."

"Yes, yes," said Balder in a conciliatory tone. "It is very good of you, I am sure. Now, Mr. Pulling, *could* you give us the exact figures of each day's production of the well since it first began to flow?"

"Yes, sir," cried Pulling with decision. "I haven't the figures with me, but send one of your young men along to my hotel and I'll give him them and perhaps some other information I know you'd like to have for your paper. But here," he cried, jumping to his feet, "I must hurry. We leave town to-night. Who are you going to send with me?"

Balder hesitated a moment; then he called to Raymond, and in doing so played his part in Lee's fate.

"Mr. Lee," he said, "I want you to accompany Mr. Pulling here, who will give you some figures and other information. Please read over to Mr. Pulling whatever you may take down. Let him see that it is correct."

"Leave him to me. Bye," cried Pulling, who, without another word, hurried out to the elevator, followed by Lee, and—the astonished gaze of Fleck.

"By ginger!" exclaimed the latter, "there's a rank one for you."

Having gained the street, Lee found that, far from accompanying, he was engaged in a stiff pursuit of Pulling.

Beyond a preliminary "Come on," that erratic individual paid no heed to his companion. With the upper part of his body thrown forward, Pulling precipitated himself through the crowd at a gait a little below a run. The most Raymond could do was to follow him at some distance, and he was glad to find that the stern chase ended in a few hundred yards, at the Astor House.

In the entrance to that ancient hostelry Pulling waited for Lee to come up to him.

"Ha! ha! young man," he cried, smiling, pleased with his own performance, "*You* haven't learned how to hustle through a crowd. I tell you, the greatest curse the human race has to contend with is their idea of space. As a fact, distance doesn't really exist—is a

mental disease—infirmity of the mind—but we are getting over it. Our forefathers said Philadelphia was twenty-four hours from New York, we say it is two hours. Nothing of the kind. It's right here," he tapped his forehead, "there is no space. Would be none if the mind wasn't still an imperfect machine. Come up stairs; I want you to see Lawler. We put up here—because it's handy for business down town."

As they ascended to Lawler's apartment, Pulling explained that Lawler was owner of the Jim Crow well, also of much land in the vicinity of it. Indeed, was a very wealthy man, one of the wealthiest in the oil region and a particular friend of his (Pulling's).

"He owns the *Weekly Eye*," Pulling added, no doubt believing that the fact would have "shop" interest for Raymond.

But Lawler, they found, was not in his rooms, so Pulling opened a door adjoining and invited Raymond to enter *there*.

"This is my room," he explained. "Sit down, Mr. —, what's your name?—Lee—and make yourself at home as I do."

Whereupon, he divested himself of his coat and made himself easy in an arm-chair with his feet cocked up on the wash-stand.

"No style for me, you see. You're English, eh?" he asked, abruptly. "Umph! The trouble with you English is, no matter how far you go, you never get more than one leg out of England. How long have you been on this side?"

"Not quite twenty-four hours."

"Joke?"

"No, indeed, I arrived only yesterday."

"How is it then you are on the *View*?"

"I'm not on the *View*."

Pulling's black eyes blinked rapidly.

"That is so," Raymond assured him.

"Come off, young fellow. Didn't I find you over there? Didn't what'sname send you along with me for this news?"

"Yes, but that was only by chance. I was trying to get something to do there. On the steamer we—that is, my friend, Mr. Winter...."

"Winter, what Winter?" demanded Pulling, quickly.
"Abraham Winter, of Pittsburgh?"

"No, his son!"

"You know him? You do? Lord! how small the world is! Do you know the old man owns some of the best land in the Catch-On Field? We've been trying to buy him out. He won't sell. He's drilling now right across from the Jim Crow. And you know his son, eh? Well! He's got some interest they say in the Catch-On lands. It belonged to the mother. Where is he?"

"He returned to the States with me. He is in New York at present, as a matter of fact, merely waiting to see whether I get a position on the *View*."

Pulling was busy with his thoughts for a minute, then he asked:

"You're not stuck on the *View*, are you? I have an idea."

"Stuck on the *View*, what is that?" asked Lee.

Pulling laughed.

"I see you're not on to the great American language. What I'm getting at is this: Suppose Lawler will give you a place on the *Weekly Eye*—small pay, of course, hard work and all the other perquisites of the poor—will you take it?"

"I'll take anything I can get."

"So bad as that, eh? Well, Lawler can't have gone far. When he comes back I'll have a talk with him. You could start with us to-night. Eh? Good."

One can never tell by the door through which one enters what one is to find inside a room, and often in after years Raymond found himself wandering along those shadowy by-paths which at almost every step strike off from the actual road of our lives, wondering whither would he have drifted had he missed that amusing, accidental encounter with Pulling. But, after all, in life there are really no possibilities. What is not could never have been, and speculations as to what might have occurred are excursions into the imaginary as truly as the wildest play of the fancy.

The result of the interview with Lawler was, that before midnight Lee, in company with Pulling, Lawler and also Ralph (for the latter found he could reach his destination by

the route the others were taking), was speeding comfortably in a Pullman car into Pennsylvania. Regarding the scenes or the fortunes he was hurrying to, he hadn't the faintest notion. But though there was nothing to be seen there was prospect before him. To the young that is always promise. The sense of motion begat a mild excitement, and Raymond's disposition was one that, like certain plants, turned quickly to the sun. Pulling's eccentric loquacity and Lawler's jollity—for Lawler was a fat, good-natured, coarse-grained creature—drew even Ralph out of his dark mood. Moreover, the news of the sudden increase in his father's wealth, in which apparently he had a share, was not entirely without a pleasant savor, for at heart Ralph did not undervalue the fleshpots which the ordinary world ardently and vigorously hankers after. He really objected only to the crude details of the cookery. He desired his portion to be as large as possible—his fastidiousness was limited to wanting the service on fine china.

CHAPTER XVIII.

IN THE OIL REGION.

THE Oil Region of Pennsylvania is one of those spots, which mankind discover occasionally, wherein Luck, like an Eastern Potentate on his travels, pitches his tent for a time to make sport with the fortunes of men. These regions, usually—you will notice—rude and inaccessible, become enchanted for a period; and, as in fairy tales, luckless wanderers discover unexpectedly in mountain wilds and forest depths, trap-doors leading to subterranean caves of wealth.

The Pennsylvania oil fields occupy part of the north-western corner of the State. It is a rough, broken, stony region of sharp hills and forest and wide, shallow, tortuous creeks that fret over pebbly bottoms. Until one, Drake, drilled the first oil well there and demonstrated that petroleum could be obtained by the artesian method like

water, the region was an obscure by-place, where a sparse and scattered population won a hard existence by lumbering and farming, amid blackened tree stumps on land in which only a lithologist could have a living interest.

Beneath the surface, however, the gnomes of old Nature had been busy since the world was young, storing up fabulous wealth, and Drake's discovery was the happy touch that disclosed it. It made the poverty-stricken region an El Dorado. The Northmen of our times—the rovers of modern days—the rough adventurous spirits whom civilization doesn't quite civilize, ready to push out in the frailest crafts for new lands which offer great prizes for hard living, poured at once in multitudes into the hemlock forests and scattered along the steep wooded creek sides, to seek the new wealth hidden there.

And the transformation that was wrought !

Rough timber towns of barn-like hostelrys and crude shanties arose. Sleepy villages shook themselves from their slumbers to look upon strange scenes until they too caught the fever that was in the air. Motley, eager crowds filled the primitive streets, and heavy wagons, as expensive to maintain as an emperor's carriage, ploughed through the mud roads. At night, Jezebel, freed from restrictions—and an excess of clothing—danced and made merry in the light of smoky oil lamps.

The sound of hammers on the derricks and cries of teamsters broke the silence of the encircling forest. There, too, in many places, hissing flames of gas, like fountains of fire, rose from the earth, casting at night through the trees a lurid glare, which the deer stole from their haunts to wonder at.

Oil Creek, Petroleum Centre, Pit Hole and a score of other places, now ruins or mere names of towns that once existed, record where the oil fever for a time infected multitudes. Money was made and lost as in a gaming house, and the prizes were large enough to dazzle and tempt millionaires. To strike oil might mean an income of one thousand or five thousand dollars a day. But Fortune here was capricious beyond her wont. No calculation could positively secure, no effort retain her favor. Frequently

she gave abundantly where she promised least and disappointed most completely where expectation had the strongest warrant. The prize drawn in the morning was before evening the temptation which led to the loss of everything. The safest course in many cases was the one which seemed the least reasonable to follow. Mirage was everywhere. As a consequence, few kept the riches they gained. Conditions fluctuated with marvelous rapidity. The seat of production shifted repeatedly. Men had scarcely ceased to marvel at the growth of towns which had arisen as by the encampment of an army when the process of desertion had already commenced.

It was for this region that Lee set out with his new friends. Late on the day after their departure from New York, Lee and Winter bade one another good-bye at the railway junction, Ophir, which, despite its opulent appellation, was a town so dismal and muddy-looking that it suggested an abode where the unhappy were sequestered.

"What a genius we Americans have for the hideous," exclaimed Ralph, as he surveyed the scene from the platform. "I hope my train won't be late. How much further did Lawler say you have to go?"

"About sixty miles, I think."

"Well, Ray, there is one good thing about this new enterprise of yours, you won't be far from Pittsburg—only a few hours. And though I hate to leave you in the company you are in, I'm better pleased than if you were in New York. Now, mind, I expect you to come on to see me the very first opportunity you get. You will, old man, won't you? Somehow, Ray, it seems harder for me than you. And Marian...."

Ralph stopped short. For a moment he and Raymond stood looking into one another's faces.

"All aboard!"

"There goes your train, Ray. God bless you—both of you. You must go back to her. I shall write to Eastchester."

The last words were shouted after Raymond, who, parting with a hard shake of the hand, boarded the moving train.

From the car platform, Raymond watched his friend until a curve in the line shut him from view.

The dusk was fading into night when Lee arrived at the end of his railroad journey. Welltown was one of the older oil towns which had acquired some degree of fixity as an emporium and headquarters for a score of smaller places scattered amid the several oil fields that dotted the country within fifty miles around it. At one time, in the earlier days of the oil excitement, it was the centre of extensive and prolific operations, to which the hundreds of abandoned or almost exhausted wells in the streets of the town itself and in the forest which surrounded the town and crept into its streets, bore witness. Wooded hills encircled Welltown. On one side they rose precipitously like a wall behind the buildings, so that from the streets one half of the sky was cut off from sight and replaced by a towering edge of the hemlock forest. The greater number of its buildings were of frame—crude, unkempt, weather-stained structures even on Main street, the chief thoroughfare, through which the railroad ran. The stores were on this street—Quigg's, the grocer's, where amid a disorderly assortment of canned goods the United States maintained the postal service; M'Koon's, the druggist's, where so many things foreign to the pharmacopœia, were dispensed; Jacob's "New York Beehive," where the proprietor gathered the modern honey of Jerusalem, from dry goods; a greasy-looking barber's store; an oil-well supply store; and others. In all, the dull, yellow lights of oil lamps were blinking when Raymond caught his first glimpse of the town from the station. The twilight aspect of the place was indescribably forlorn. The quietness of the streets was saddening, perhaps because of the contrast it offered to the sensation of motion and the steady hum of the traveling cars during the past day. There were many people about, but it was the evening hour for lounging and they were congregated in little knots and seated in and about the stores.

As the train pulled out of the town and Raymond watched the red rear lights diminish and pass from sight amid the forest, he felt as though a friend had forsaken him in a strange place, and he was now cut off from the world.

The only pleasant sight was the long flame of natural gas which hissed from a tall pole-like pipe in front of a square building with a large verandah upon which in white letters on a blue background was written:

UNITED STATES HOTEL, THOS. FEELER, PROP.

"Home again," cried Pulling, exhaling a long breath. "After all, there's no place like it."

Raymond wondered whether a man who could have feelings of that sort should be pitied or admired.

It had been arranged on the train, during the journey, that Pulling and Raymond were to proceed without delay to the Jim Crow well, but that Lawler, who inhabited one of the more pretentious houses in the "fashionable section" (to use the native characterization) of Welltown, was to spend the night at home and join the couple in the morning. With an indifferent "good-bye" at the station, the oil producer, who was a man of little ceremony, forsook his companions.

"Hurry up with your feed," he said to Pulling. "I'll have the buggy ready for you by eight."

"Right you are," cried Pulling, who, as he told Lee, enjoyed "being on the go."

"I went through Europe three years ago in two months," he said. "France, Germany, Italy, England, saw everything. People are so durned slow—can't turn around without sitting down to think about it. I'll send your traps up to my rooms—you can find them there when you want them—and we'll hurry over to the hotel for supper. Come on."

Raymond acquiesced. He was still moving very much in the dark and could see no reason for objecting to follow any course suggested to him. Lawler had instructed him to give "a help to Pulling, who'll show you what to do," so, without a word of dissent, Raymond allowed himself to be led. It was apparent that Pulling enjoyed an off-hand importance in playing the part of conductor and exhibiting his eccentricities, in which evidently he took pleasure. Clearly there was method in that individual's waywardness. Like other contortionists he had practiced

his tricks until he performed them naturally. His willful bizarrerie was an expression of a tremendously exaggerated egotism. For notoriety he would have worn his coat inside out and maintained that it was the intention of the maker. Indeed, Raymond learned subsequently that when he returned from Europe, a trip of which he talked ceaselessly, and which, by the way, his father induced him to take to escape the consequences of a hot-headed quarrel, he never appeared on the streets without an alpenstock and a field-glass slung over his shoulders, alleging that he had become so used to these "accompaniments" in Switzerland that he felt uncomfortable without them.

Several voices hailed Pulling on the way to the hotel, for Pulling was well known. He was not only one of Welltown's notorieties, but an omnipresent individual who pushed himself with incredible celerity into everybody's acquaintance.

"Hallo, Pulling," cried one as he darted by. "Where're you off to?"

"Fishing," cried Pulling. "Catching gudgeons."

"How's the Jim Crow?" asked several

"There goes the crank," said another.

"Come on, Lee," shouted Pulling. "Mind," he said, as they entered the hotel, "we've only fifteen minutes for this performance. Don't masticate your meat—it's a false notion—all carnivorous animals bolt their food—Hello, Feeler—Any of the debris left? This way, Lee. In here."

The dining-room, a low, dimly-lit apartment, traversed by four long tables covered with obviously maculate red cloths and many little soiled dishes, was almost deserted, for in Welltown eating was a severe business, discharged with the haste of the Passover. Having served the usual guests of the house the waitresses were enjoying their own meal when the two late comers entered.

"Hurry up, Lilly," cried Pulling. "My fairy Lillian—white rose with the black thorns—we've only got ten minutes. I've brought a blasted Britisher from Hingland, you know, to make love to you—but not to-night, Lilly—we've something else on at present. Sit down, Lee."

A dark girl came forward tittering.

"Never mind the menu, Lilly," said Pulling, seating himself and at the same time clearing a space before him on the table. "The evening formula, Lee, in this *waysong* is invariable—chops, steaks, corn-beef hash, eggs, tea, coffee. As the Irish lady said: 'if their tay was as strong as their butter it would be an illigant repast.' We'll leave the choice to you, Lilly. Bring us the best you've got—omitting the hash.

A sense of chill despondency deepened upon Lee. At that moment he would have retreated from his new position had retreat been possible.

The depression, however, which he suffered was soon dissipated. It vanished almost at the very commencement of their long night ride. The chilling crudeness of the town passed as by fairy transformation into the moonlit stillness of the forest. The road they traveled on—lined on both sides by the forest like an army on parade—wound over hills, dove abruptly into valley depths or skirted along high wooded banks at the foot of which were streams that sparkled in the moonlight and reflected the dark shadows of the trees that bordered them. The cold night air was laden with the moist odors of the spring. The peace that reigned was profound. The earth and all upon it slumbered under the spell of a soft enchantment like a maiden lost in dreams, and above, in the dark purple sky, the stars appeared to be yellow globes of light that were drifting slowly upon upper currents away to the horizon.

Even Pulling's loquacity was hushed, not because any of the poetic light was in his eyes, but, to tell the truth, because being very shortsighted with all things, including poetry, he was obliged to pay strained attention to the horses.

From whatever cause, Raymond was glad of the silence. He lay back in the buggy, and with eyes half closed passed, not precisely into dreamland, but into that vague borderland just beyond the present, where memories and hopes blended with the scenes he was traveling through. Arising perhaps from the witchery of the night, a feeling of vague anticipation filled him. The barriers that had narrowed his life for years seemed to have fallen away, and

far from being bound that night for a prosy destination, he was stepping forth hopefully into a measureless region traversed by happy paths. Despite himself, he felt a sensation of keen expectancy, a stir of strange exultation. The actual facts of his condition were for the moment thrust to the background. Actual facts, indeed! In such a night as that the very substance of facts was dissolved to gossamer and nothing remained of them but the merest outlines with which the magic of the moonlight played tricks. More than once, when the vehicle descended into the dark hollows, the trees appeared to lift up their giant arms and press in upon the road in front of the travelers as though to frighten the intruders from the gloomy recesses; and afterwards, when the summits were attained and wide views of the country as far as the horizon were disclosed for a moment, the forest was like a retreating army covering the hills.

Pulling's white face paled in the moonlight. Bent forward, with a look of intense preoccupation on his face, his dark eyes peering through heavy iron spectacles, he appeared to Raymond to be some supernatural being who was carrying him away.

After leaving Welltown the first word uttered by Pulling, save to the horses, was in the shade of one of the woody hollows.

"See that hut there?" he said, pointing to the trees with his whip.

Some fifty paces from the road in the phosphorescent glow which the moonlight diffused through the forest aisles Raymond saw a deserted hut.

"That," continued Pulling, "is where Hen Sprint was murdered."

Raymond shuddered.

A cold gust of air seemed to pass from the trees.

"Whoa there. We'll take this next hill easy—whoa Bet." Pulling leaned back in his seat.

"If it hadn't been for Sprint's death we wouldn't be here to-night. It was him put me onto the Catch-On Field. How?"

Pulling spoke in a dreamy tone. His eyes were fixed as though staring through the smoking breath of the horses at something before him.

"Sprint was a bark-peeler—tanning, you know—lived alone in that hut. His brother, Pete, and his wife lived on the other side of the road—three-quarters of a mile back. They were in a kind of partnership—whacked up in the results by some sort of rule of three, for Hen was head of the firm. Hard worker Hen—he was like a woodpecker—spent all his time on the trees—or sleeping. He made a trip to Welltown once or twice a year—never more—to buy clothes. The rest of his time he was in the woods. All the money he made he put into land hereabouts, and when he died he owned, perhaps, a thousand acres. His last purchase was the very land Lawler owns, the Jim Crow land. Queer! The last time I saw him he said, 'I'll be rich yet, and buy out the lot of you. Hen Sprint knows a thing or two, you wait.' About a month after, he'd secured the Jim Crow property. No one thought anything of it. It was a large deal for Sprint—but we knew the old 'possum was making money. I didn't see him again—or even so much as think of him—until we were all startled by the news that he had been found dead in his cabin. Some one had broken his head in while he slept—brutal thing—ghastly. It was Pete that carried the news to us—came running into Welltown, his wife bringing up the rear, crying, in hysterics. The whole town turned out into the woods, and by and by there was an inquest. But not a trace of the murderer. I undertook to work up the case—for the *Weekly Eye*—but there was no more evidence against any one than if Hen had died of heart disease. Lots of us suspected that it was Pete's work, but suspicion, like a squirrel, takes to the nearest tree. Good? Eh? The only thing against Pete was proximity. But Pete showed clean hands. Hen was seen drawing water at eight o'clock—Pete was at home all that night after seven. Nobody liked Pete, but you see we couldn't do anything to him, even on principle, no matter what we suspected. Of course you might as well try to get oil with a spade as find the truth of a case like that by court methods. Damn nonsense poking among the living for clues that run this way under one fellow's nose and right contrary under another's. The proper thing to do," exclaimed Pulling, raising his voice,

"*was to examine the dead man*, but somehow I couldn't get 'em to do it."

Raymond smiled at this curious method of jurisprudence, but he was too much interested in the story to interrupt Pulling by any word that would produce an argument.

"I told Lawler I could get to the bottom of the case," continued Pulling, "but, pshaw, Lawler was as big an ass as the rest of 'em. All he did was as you do with babies—smile. 'Well, go ahead, Pulling,' he said; but he wouldn't do what I wanted him to do, which was suspend the inquest until I could have a chat with Hen."

"What! the murdered man!" exclaimed Raymond.

"Of course," replied Pulling, as though the matter was perfectly obvious, "but the damndest part of it all was I could not get hold of Hen."

This obstinate backwardness of the dead man must have given Pulling no little annoyance at the time, for he still showed vexation in his voice.

"Do you know," he continued, "night after night, for at least six weeks, I did my best to meet Hen, did everything I could, but couldn't get him? No, sir—I—could—not—get—him."

"Surprising," said Raymond, struggling to suppress a smile.

"Surprising! I should say so. Never was so disappointed in my life before or since. Well—I'd about given Hen up, when one evening as I was having a talk with Henry Clay and Charles Wesley...."

"Whom do you say?" cried Raymond.

"Clay and Wesley," repeated Pulling in so natural a tone that Lee concluded the best thing he could do was to listen and say nothing.

"Charles Wesley, you know, was born in the same town in England as my great grandfather—they knew one another well—I suppose that's why the old preacher has always taken so great an interest in me. He was sitting there in my room, on one side of the stove—Clay was on the other—it was winter time, one of those clear, cold, cracking nights—and the old man—I remember it well—had just spread his soft, white, silvery hands out so, to gather the

heat and was saying with a sad shake of the head—he has the sweetest voice you ever heard: ‘Ah, Mr. Pulling, I should have ordered things differently, I think, when I was with you all, could I have seen as I see now what my ideas and efforts would lead others to. I am greatly to blame for my blindness. I assure you I had no intention of cheapening the Almighty.’ Clay said something, I’ve forgotten exactly what, about the impossibility of foretelling the ultimate effect of any idea or practice, and I was on the point of speaking to cheer up the old man when who should open the door and walk in amongst us but Hen Sprint. ‘You’re the very man I’ve been looking for’ I cried. ‘I know it,’ he says, ‘but I couldn’t get away.’ I introduced him to the others and asked him to make himself at home, but he declined sadly. ‘No, Mr. Pulling,’ he said, in a very genteel way for Hen—clearly his recent experience had improved him—‘It is very good of you, but I can’t stay. If these gentlemen will excuse me, though, I will impart to you what I came to tell you and then be off.’ ‘Go ahead,’ I said, ‘I knew it would come to this. You are going to tell me about Pete.’ ‘That is so,’ he said. ‘It was my brother Pete who removed me hither.’ ‘Ah!’ I cried, jumping up. ‘The fools. I was right. Never mind,’ I said, ‘leave him to me, he shall hang for it—go to hell with a tight collar.’ ‘No, no,’ he said, gently pushing me back into my seat, ‘not that. Much obliged to you, but it isn’t necessary, and means nothing—nothing—nothing now. All that I want is that he shall not reap any benefit from the oil. It was that that tempted him.’

“‘Most exemplary,’ says Mr. Wesley, nodding approval. ‘Ho, ho,’ I says. ‘I see; just what I expected.’ ‘You know,’ he continued, ‘about the’—he struggled for a moment as though his mind was vague—‘four months ago I purchased two hundred acres in tract 56, just off the Tianogo road. Good land, as rich as any in the Region. I had my eyes on it for years because I was sure there was oil there. The rod indicated an immense supply.’

“Clay and Wesley turned with a look of inquiry to me. They didn’t know anything about the divination rod and how some can use it to discover what is hidden beneath

the surface, so I had to explain matters to them. Mr. Wesley didn't like the idea.

" 'Rather dangerous practice, it seems to me,' he said. 'Doesn't it savor a little of sorcery?'

" 'I never regarded it in that light,' said Sprint. 'However,' he continued, 'long ago, when I became convinced there was oil on the land, I determined to buy, bit by bit, every acre I could get hold of. It was only good for lumbering everybody thought, and I got the two hundred acres at an average of six dollars an acre. Ah! when the deed for the last acre of that land was in my possession how tickled I was. I began to feel big, and the result of that feeling you know is speech. I said to Pete, 'I'm a millionaire—can buy up all the durned crowd around here—lock, stock and barrel.' Then I up and told him my secret. One of the first effects of wealth is to make a man try to buy things cheap, and as I wanted a little generosity at a low price I said, 'Pete, I will make over to you all the lumber land, and by and by, if you continue straight, I'll fix you with some ready cash, so that you and Mary shall never want.' 'And what are *you* going to do?' asked Pete, with what I see now was a queer shine about his eyes. 'Merely be rich, Pete, for a time,' I said. 'By and by I may do something else—can't tell just now.' 'I wouldn't change,' he said, with a little sneer that has grown plainer since. 'You can't beat the first plan. You're sure, of course, there's oil there?' he asked. When I said 'sure' he put his hands in his pockets and went away thoughtful like towards his cabin. The next time I spoke to him of my plans was'—again he paused—'some days ago. I shall run into Welltown in the morning, Pete,' I said, 'to see what arrangements I can make to begin drilling.' 'So you are going to begin?' he said, with queer indifference. 'Good luck to you.' 'I did make that trip,' continued Hen, 'but it was in this shape.'

" 'Now, Mr. Pulling,' he said, changing his tone a little, 'Pete hopes to get that oil, but he mustn't. That and that only is to be his punishment. Can I trust to you?'

" 'Leave the matter to me,' I said, 'I promise you I'll see to it. Only don't hide yourself from me as you have.'

You are not in the woods now,' I added, for we were all getting a trifle sombre. He smiled and said :

"No, I'll see you again, soon."

"With that he insisted upon leaving.

"I needn't tell you I started at once for Lawler. When I told him what I'd heard, what do you think the damned ass said to me? He said, 'Pulling, either you've got the D. T.'s badly, or you ought to be put in safe keeping somewhere. Drink or your brains are too much for you.' 'What do you think of that?'"

"Disgraceful," said Raymond.

"Oh, I could have given it to him. But the man had done me too many favors for that, and, Mr. Lee, I'm one of those that don't forget."

Raymond assured him he was sure of it.

"All I said was this: 'Before you commit yourself too far will you let me bring Pete up here for five minutes?'"

"For what," he asked.

"I couldn't help it. 'To prove that you are too big a fool to be worth kicking.'"

"I'm not anxious for any such demonstration, Pulling," he said, smiling. "Why force it on me?"

"Because you've doubted everything I've told you about this murder. Either you are wrong or I. Why not settle the question intelligently?"

"There's nothing to settle, Pulling," he said, "except your unhealthy imagination. It's leading you the devil knows where!"

"There was no use arguing. I said, 'Will you *oblige* me in this one matter. If you don't admit I'm right before I'm through I'll never contradict you again on anything.' 'Lord, Pulling,' he cried, 'that would be worth anything!' Without another word I left him.

"Was I hot! Ge-whittiker! Oh, no! I made up my mind to drag Pete Sprint to him by the hair of the head if he wouldn't come any other way.

"Then and there I got a buggy and set out for the woods.

"I found Pete in bed. I got him up and before he was half awake had him on the way back again to Welltown.

"What does Mr. Lawler want me for," he asked.

"'He's going to begin drilling,' I said, 'over in Tianoga to-morrow just outside tract 56, and something has happened to Wilson'—that was one of Lawler's old standbys—'and he wants you to help him.' I knew that would fetch him.

"In one-two order I can tell you I had Peet before Lawler.

"I whispered to Lawler, who was still in a smilingly contumelious frame of mind: 'Let me handle him.'

"'First of all, Pete,' says I, turning the key in the door and pocketing it, 'you understand Mr. Lawler wishes everything that passes in this room during the next few minutes to be strictly secret. You will see why as we go along.'

"'Oh, yes, certainly,' said Pete, a little dubiously.

"'If anything leaks out it will be from you, mind, and the cost of any damages will be paid by Peter Sprint, Esq.'

"The fellow eyed me.

"'Do you know Pete,' I said, looking him straight in the face, 'Hen has given you away? We have his post-mortem statement.'

"He didn't know what post-mortem meant.

"The cur bounded out of his chair as white, sir, as a sheet.

"'Sit down,' I said. 'All the circumstances of his murder are known to us.'

"'It's a lie,' he roared. 'Mr. Lawler, let me out!'

"Lawler, I can tell you, was surprised.

"'You're forgetting,' I said, 'what I told you a minute ago about secrecy and the consequences of any leakage. If you want to go you can,' I said, putting the key of the door on the table, 'but I think you'd better stay a little with us here, because it's safer for you. It happens that the Chief of Police has just dropped in for a few moments downstairs. Sit down.' Pete sat down. 'Your brother,' I went on, 'has told me everything.'

"'You are trying to trap me,' he cried, 'but you can't. Let me go.'

"'No trap, Pete, unless you mean that your brother's post-mortem statement is a trap. So it is—just big enough to swing you about eight feet in the clear. He told you there was oil on his little purchase on tract 56. He was

going to be rich, eh? and you felt badly about it, Pete. You think you stopped his power of speech on a certain night, but you didn't. He has given you away to me, my fine fellow, but in a very brotherly spirit. Shall I call the Chief of Police?

"The cur collapsed, sir.

"No, no," he cried wildly, 'for God's sake!'

"Then Lawler, who was almost as white as Sprint, rose.

"This has gone far enough, Pulling," he cried. 'How the devil you found...'

"Shut up," I said, 'this isn't all.'

"This fellow," he cried, 'must be at once...'

"Be quiet," I said, pushing him back into his chair. 'I promised Hen, and by God I'll keep my word, that his brother should not suffer beyond the surrender of that land.'

"What do you mean?" he said. 'Compound with...'

"Compound with nothing," I said. 'My lips are closed if...'

"Your lips," he cried, angrily.

"What have you from *his* lips?" I said, pointing to Pete, who was watching us eagerly.

"Pete saw the point in an instant.

"I've said nothing, nothing. You can't twist things that way," he cried, defiantly.

"True," I said. 'You stick to that.'

"Lawler saw he was checkmated.

"I'm the only one that can hang you, Pete, and you're safe if you obey me.'

"What do you want?" he asked, piteously. 'I'll do anything.'

"Hen said nothing was to happen to you if you gave up that land.'

"I wo—" he began.

"Tush!" I said. 'Do you want to hang? If you deliver that land to me you shall have twelve hundred dollars for it, the price Hen paid, and your safety from the gallows, on condition you clear out of these parts and are never seen within them again.'

"Twelve hundred dollars wasn't what he gave for it," Pete whimpered.

"‘It is,’ I said. ‘Hen told me so.’

"‘In the deeds it says—’ he began.

"‘Never mind the deeds,’ I said, ‘twelve hundred dollars was the price he paid. But there’s no room for argument. I’ve got to do what he said. Yes or no? Will you give up that land or not? The Chief may get tired of waiting downstairs.’

"‘Twelve hundred’ he asked, looking up at me aside.

"‘Twelve hundred dollars,’ I said.

"‘All right,’ he replied. ‘But I didn’t do it.’

"‘There’s another side to that question,’ I said, ‘and, if I was you, I wouldn’t publish your side of it too loudly; you might have to prove it.’

"To make a long story short, the upshot of that interview was Peter Sprint turned over the two hundred acres to me for the sum of twelve hundred dollars, and cleared out of the country. At first Lawler would have nothing to do with the transaction—swore it was compounding with felony and so forth. But, as I asked him: ‘How else can you punish Pete? The fellow has not confessed anything, and, with my promise to Hen, no court in the land could induce me to give evidence.’

"‘No court of law,’ he said, ‘would listen to your rigmarole for five seconds.’

"‘Well, I have my opinion,’ I said. ‘If you won’t take that land and pay the twelve hundred dollars for it I’ll find somebody else that will.’ That brought the money, though I don’t believe at that time Lawler had much faith in its value for oil. He took it on spec., as he has half the lands he ever bought.

"For nearly a year after that I pestered Lawler to begin drilling. He wasn’t going to waste money on my ghost stories, he declared. Ignorant fool! But he’s got over that since. I’ve fixed that part of his education.

"It wasn’t until the Spot Cash field—where most of his wells were—began petering out, which was last Fall, that he gave any heed to me. He met Professor Looker, one of those scientific know-it-alls—belongs to the State Geological Survey. In the course of conversation he asked him casually where he thought the next great oil field would be

discovered. There was some little light in Looker, for he said there was no place that he could see unless it were in the direction of Tianogo. Then, it appears, he gave him some ancient history about certain old wells which had been drilled years ago in Bloomer township. They didn't get much oil, but Looker had a theory that by this and by that the records indicated oil in paying quantities if the wells had been drilled deep enough.

"Now one of these wildcats happened to have been put down about a mile in a direct sou'west line from Sprint's land, and Lawler three months ago screwed himself up to the point to start a well. That's the history of the Jim Crow. So you see, as I said at the beginning, if it hadn't been for the murder of Sprint you and I wouldn't be here to-night, young fellow."

"Strange, isn't it?" said Raymond.

"No," replied Pulling, shortly. "Not at all."

"Have you seen the murdered man since that—er—first interview?"

"Oh, lots of times. Hen and I are good friends. He's promised to put me on to another mysterious murder that was committed in these parts many years ago. Some day I may make a regular business of hunting up these sort of cases."

Before he had time to think Raymond said, feeling his heart beat rapidly as he spoke: "I know of a case in which a friend of mine is interested that you might try your hand on. But it is a hard one."

"Nonsense. None of them are hard if you can only get hold of the right people. Of course, if I couldn't have got hold of Hen I couldn't have done anything."

"But this case happened years ago, and in England."

"Time and place don't count. I'll tell you something. I've been trying lately to get at the facts of the death of Cleopatra. I never took any stock in that asp business. I struck a clue the other night—I'm on to it—just wait a little. You'll see."

Pulling's eyes glistened in the moonlight. The joy of the discoverer at the threshold of success rang with a strange accent in his voice.

"But tell me your case, I want to make a collection of them. If it amounts to anything I may do something with it some day."

As they journeyed through the woods Raymond told the story of the crime for which his father suffered, omitting, however, the real names.

"That's a good one. Not bad at all," said Pulling, when he had concluded. "Famous scientist, you say—Tomlinson, eh?—I never heard of him."

"No?" said Raymond, feigning surprise. "He was, his works still are, well known on the other side."

"They are, eh? I'll go over that again with you some other time. Ah! there's the Jim Crow. Do you see those lights among the trees, there, up that bank? That's the dandy."

They were at the top of a hill, at a point where the road began a steep descent, with banks on both sides like walls. So high were the banks that the road was like a dark gully through the trees. Below—apparently several hundred feet below—a wide plain, flooded with the moonlight, stretched away for miles, and through it the Tianogo Creek, bright as silver, wandered with a multitude of sharp bends on its way to join the Allegheny.

"This is grand," cried Raymond.

"Tisn't bad, is it," said Pulling, "but you get used to it. Here we are. Whoa! whoa!"

With much noise Pulling brought the horses to a stand by the side of a low rough timber shed built at the foot of the right bank.

A door was thrown open sharply, and, ducking his head as he made an exit, a tall man stood forth in the ruddy light which shot out with him from the interior. The shed was a boiler house that supplied steam to the Jim Crow well.

The tall man stretched himself and yawned.

"Is that you, Pulling?" he asked, sleepily peering before him.

"It is, Badger."

"I might know no other fly-by-night but you would be mooning 'round at such an hour. I'll be damned if you ain't a bat. Couldn't you have come later?"

This was a compliment to Pulling—reputation for the extraordinary tickled him.

“It’s early yet, Badger.”

“Certainly, certainly. When does it begin to grow late in your part of the country? That’s what I’d like to know. You’d make a good, what-do-you-call-’m?—Peskynoes, is it?—where it’s night all day long. Who’s this you’ve got with you?”

Following Pulling, Raymond had alighted from the buggy.

“Mr. Lee, Mr. Badger,” said Pulling, performing the office of introduction. “Friend of Lawler’s. O. K. New man on the paper.”

Badger held out a hand like a bear’s paw.

“Glad to know yer,” he said, awkwardly. “Come in.”

“This, said Pulling, as they entered the shanty, is the Hotel de Jim Crow. Oysters and beer in every style.”

“You needn’t begin begging ’round for food or drink, said Badger, ‘this is a strictly respectable house, let me tell you, and we close, we do, sharp at midnight.’”

“Anything new?” asked Pulling.

“No-p,” replied Badger. “The Fluke Oil Co.’s well is into the first sand, they say. But they’ve got her boarded up tight as a drum and a picket guard around her. It’s hard to find out much.”

“I wish we could,” said Pulling. “Lawler’s got hold of the land to the south of her and can have the five hundred acres adjacent at a price.”

“So that’s why you two sneaked off to New York?”

Pulling winked knowingly. Then he said:

“Lawler’d give something to find out what that Fluke well is going to amount to. If she comes in big the price they’ve asked him for the five hundred acres wouldn’t be high. They’re sure to jump it up when they know it is a sure thing. Say, Badger, we must find out.”

“It’ll take a smarter fellow than you to find out, let me tell you. It beats the Jim Crow the way they’ve got her bottled up. The exchange fellows are on to her and there are a dozen scouts in the woods watching, but it is mighty little they’ve been able to get. They say the owners are

trying to work the market with her, and the boys don't mean to be left if they can help it. Lord, if she should be a 'duster.'"

"Go on! There's no chance of that," said Pulling, frowning. The possibility didn't please him.

"There ain't, eh? You never heard of such a thing, did you?"

Badger said no more, but it was enough to bring the conversation to a sudden stop.

Long afterwards, Raymond often thought how little heed he gave to this conversation, yet within a few days it decided the course of his life.

The shed they were sitting in was merely a number of rough boards, the cracks between which were filled with old paper and pieces of rag. Inside, along the walls, was a deep bench used for sleeping upon. In the centre of the room stood the sputtering boiler, with its pipes radiating along the floor and across the ceiling. The door of the furnace was open, and it was more by the glow of the fire therein than by the smoky light of the single lantern hung in one corner that Raymond took notice of the foregoing particulars, of the old clothes hanging on pegs, the pile of tools and the coal scattered about the floor. Badger, who was seated in front of the furnace door, put his face between his hands and stared steadily into the fire. Pulling, bolt upright by his side, sat blinking his eyes rapidly in the ruddy glow. Raymond plunged into the midst of a troop of thoughts and was carried along with them as they scampered through the moonlight and circled around the hut of Henry Sprint. The story he had just heard of the bark peeler's fate forced him to mentally rehearse the crime for which his own father had suffered.

For a few moments the silence around the hut deepened. The only sound audible was the hissing of the steam escaping from loose joints in the pipes. At last Pulling jumped up, exclaiming:

"Badger, we *must* find out what that Fluke well amounts to."

From between his hands, but without a move, Badger said softly:

"Must we, eh?"

Later the three made couches for themselves on the wooden benches and "turned in."

In the morning, shortly after daybreak, Raymond was up taking his bearings. On the top of the bank above the boiler shed was the Jim Crow well. It was surrounded by a high picket fence like a stockade. In the centre of the space thus inclosed, overarched by the branches of the tall forest trees, rose the derrick. Through the heavy pipe that emerged from the floor in the middle of the derrick the oil was silently flowing from two thousand feet below the surface into huge wooden tanks. The ground was slimy with thick green oil; the air was permeated with the odor of it and with the rare gas that bubbled up with it and floated away in scarcely visible cloudlets. The atmosphere was in a combustible condition, and the sign "Smokers will be Shot" nailed on one of the trees was, under the circumstances, scarcely too violent a threat. Several men were at work within the well inclosure building additional tankage, for at that moment the Jim Crow was producing at the rate of twelve hundred barrels a day.

Back in the woods, several hundred feet north of the Jim Crow, was the Fluke Co.'s well, stockaded like the Jim Crow and guarded by half a dozen men. With the exception of these two evidences of man's handiwork everything on that side of the road was primæval forest. But, on the other side, in a clearing an eighth of a mile away, approached by a newly-made corduroy road, were the beginnings of the town of Catch-On. At that moment it consisted of a wide ploughed street, extending from one end of the clearing to the other. On this street were six wooden huts, three of which displayed legends as to the price and dimensions of schooners of lager, and a larger shanty, two stories in height and of considerable extension, labeled cursively in ink, like a packing-box :

"The Catch-On House—American and European plan."

In one of the windows was the familiar white and blue sign, "Western Union Telegraph Co."

Lawler, as Raymond discovered, was the owner of the land upon which the "town" of Catch-On stood; and

he learned from Pulling that the duties he was expected to perform "at first" was to hang around, keep an eye on all strangers, answer questions of any one who might desire to buy "lots," and gather all the news he could for the *Weekly Eye*.

"Lawler, you know," Pulling explained, "is going to boom Catch-On. We've got a column in the *Eye*—'Catch-On Crinkles'—for all the personals and gossip you can get hold of."

"Catch-On Crinkles," exclaimed Raymond, "what does that mean?"

"Oh, that's our artful alliteration—one of the tricks of journalism," said Pulling, laughing. "We meant Wrinkles, but the damn word begins with a W, so we had to make it a C—euphonized it as it were."

Started in this way, Lee began his new career as reporter for the *Eye*—the leading weekly in Tianoga County. Pulling introduced him to the proprietor of the hotel, the telegraph operator, the vendor of the colossal schooners and the ten cent "Straight Shot Rye, Warranted to hit the mark every time," and to many of the drillers and others who were stationed at Catch-On.

Raymond found it hard work to make work. He "hung around" the hotel and within the sacred precincts of the Jim Crow, and sent to Welltown every day by the stage the names of any new arrivals and all the floating gossip that reached his ears. It was very wretched stuff he thought, this news, but Pulling assured him it was "O. K." and bade him "keep it up."

The day after his arrival at Catch-On the Jim Crow was "opened," which meant that the owner, Pulling and others connected with the venture, ceased lying about it and strangers were given access to the well to verify reports. The event was followed by the advent of a number of producers from all parts of the Oil Region, and rumors were soon rife of many purchases of land at high prices in and around the vicinity of Catch-On, and that this one and that one were about to begin drilling. Soon the stage began to do a thriving business, always arriving full inside and out. Another vehicle—"The Opposition" it was called—was put

on the route, and within a week there was talk of building a railroad through the woods from Welltown.

Pulling spent a great part of his time hurrying between the two places. He brought to Raymond wonderful stories of the excitement that prevailed in Welltown and of the crowds that were flocking there and the rapid massing of boilers and tools and apparatus for drilling.

"Before the end of the month," he predicted, "there'll be a hundred wells going down in Catch-On. Lawler's going to start three new ones."

When Raymond made a few hours visit to Welltown he found that Pulling had not exaggerated the state of affairs. The town was in a ferment and the journey from Welltown to Catch-On had been converted into one of easy stages by the erection of a number of liquor shanties along the road. Heavy trucks and small detachments of carpenters began to arrive at Catch-On. A dozen new buildings were "run up" in almost as many days. On all sides, the forest began to resound with the rapping of hammers. Men seemed to be stealing in like the spies of an army to go quietly to work in the woods with feverish haste. Raymond caught the excitement. It was a new and not unpleasant sensation for him.

"Wait a little," said Pulling. "There'll be ten thousand people in Catch-On before you are sixty days older."

Raymond became greatly attached to this queer individual, who in turn sought his company, assisted him in his work by making it conform to the weird requirements of provincial journalism, and brought him cigars from Welltown.

"I don't smoke, myself," he said, "but I know those things are better than the stinkerees you get here."

At another time he said:

"I like you, Lee. You're the only fellow I can talk to sensibly."

This meant that Raymond was the only fellow who listened to his strange vagaries; and an attentive and patient ear was to Pulling as the gates of Paradise.

Every Saturday night Pulling arrived at the well with a little bundle of cigars which he insisted upon Raymond's

smoking on Sunday as they wandered through the woods or fished for trout in pools which the Tianoga filled with cool, clear, running water even in the summer dryness. Raymond had got to the human side of Pulling, and found, as in the stream they fished in, there were depths there amid the shallows.

During one of their strolls Raymond said :

"I wonder you haven't struck oil somewhere with the rest."

"'Tisn't for want of chances," Pulling replied. "I suppose I could have made my pile if I'd cut away and sailed in with the crowd, but for fourteen years I've stuck to Lawler. I'll tell you why."

Pulling was sitting on a huge boulder. He hesitated before continuing, which was an unusual thing for Pulling.

"Fifteen years ago," he began, "I was engaged."

Then he stopped, hesitated, and began again.

"It was my cousin—she took a cold—the spring we were to be married she died. They called me a crank even then—and you know a crank has no feelings. Besides, I was poor. It is not right to be a crank and poor. It was before my father made the money he has lost since—and I was alone in Welltown. No one disturbed me—they left me alone. That didn't matter, but—I was sick, or sickish for a time—something wouldn't work right. Perhaps I was in a bad state—I don't know—they said so—when one night Lawler, for whom I'd done some little book-keeping, came to my rooms and said in a way that wasn't quite like Lawler : 'Pulling, I've got to make a trip West and want some one to go with me to help me a little. I've got your tickets and want you to come with me to-morrow.'

"I thought it was business and went. We were gone a month, and when I got home again and remembered that while we were away Lawler hadn't asked me to do a thing for him I began thinking I owed Lawler something. Do you know I hadn't even thanked him. I got up and went straight to him and said, offering him my hand : 'Mr. Lawler, do you want some one you can count on?' He took my hand, and said : 'Pulling, I'm sure I can count on you.' And he has—ever since."

A little stillness seemed to fall upon the forest.

It was broken by Pulling.

"Pshaw," he said, "money's the dearest thing a man buys."

He added suddenly :

"I passed a very pleasant night last night—Who do you think?"

Pulling smiled with pleasure.

"I couldn't guess," replied Raymond, who had discovered the immense range of his friend's nocturnal acquaintances.

"Mohammed," said Pulling, triumphantly. "He's one of the fellows I've been trying to meet for I can't tell you how long. At last I've reached him—through Wesley. I had no idea they were on good terms, but they are—quite sociable—find, like the two poles, that though they occupy different ground, they have much in common. Ha, ha."

"I don't quite understand," said Raymond, advancing a question he had long desired to propound, "whether these—er—friends of yours are to be regarded as the very personages who once lived or as only the shadows of them?"

Hitherto Raymond had listened to Pulling's stories about his "friends" as unquestioningly as though they were people living in the next street.

"For instance," continued Raymond, "do you believe it was the real Henry Sprint that paid you that visit you told me or was it all only a dream you had?"

"A dream!" exclaimed Pulling. "A dream! and I wider awake than you are this minute. No, sir. He was as substantial as you are or these trees or this rock I'm sitting on."

"Well, we're substantial enough," said Raymond.

"I'm not so sure about that," said Pulling, decisively. "It's a grave matter of doubt with me. Does anything exist but myself and what I call the Great Suggestor?"

"The what? the Great Suggestor?"

"Yes. The matter is very simple. There is my mind, and a being or another mind, what you will, outside of my mind, who suggests to me, as in hypnotism, all that I see, feel or do. That's the Great Suggestor. I am the subject, the Great Suggestor is the operator. When my mind

works, 'Pulling,' says the Great Suggestor, in effect, 'you are to see this, hear that, feel the other.' The earth is a suggestion. My life and all in it are a string of suggestions. I am the reality that links all my experiences together. I experience change upon change, I come and go, see new scenes, meet new faces, grow old; but it is all nothing but a moving panorama—the commands of the Great Suggestor taking form in my brain. So you perceive it isn't by any means *certain* that you exist. I'm going to work that idea out some day. What do you think of it. Good, isn't it?"

"Immense. But don't annihilate *me* in your summary way," said Raymond, laughing.

"Mind, of course, I don't mean to say you don't exist at all. You do, but only in my brain."

"But," objected Raymond, playing with his friend's crotchet, "I not only see the same world that you do, but I've seen and I know things that you do not. I have experiences that lie outside of yours, and of which you have no knowledge."

"Well, that's nothing. You and your experiences are only suggestions given to me. Everything you are is part of the suggestion of which you are a part. You understand."

Remembering how keenly irritable Pulling was under an argument pushed to the point of hostility, Raymond continued the subject obliquely by saying:

"And so I, Wesley, Mohammed and the others are merely so many suggestions?"

"Yes; that's what I'm *inclined* to think. But my mind isn't quite made up yet. I merely incline strongly to that view."

"Then am I to say the people I have seen and those that have come to me—in—the Henry Sprint fashion...."

"What?" cried Pulling, eagerly. "Do they come to you, too?"

"Oh, well, not quite as they come to you," replied Raymond, amused at the interest he had aroused.

"How, then? Tell me?"

"My experience in visions or whatever else you term these waking visitations is limited to a single apparition twice repeated."

Proceeding, Raymond recounted how on two occasions he had seen a fierce horror-stricken face of one he did not know peering into his.

Pulling was tremendously interested in the story. His sensitive, nervous nature was morbidly excited by any tale of the kind.

"In the first case," he said, biting the nail of one of his forefingers rapidly and blinking his eyes nervously, "the actual man you encountered was the 'bus driver, Zip?"

"Yes," said Raymond, wondering what Pulling would make of his story.

"And in the second case it was your friend Winter?"

"That's right."

"The face wasn't theirs, nor like theirs, eh?"

"Not a bit."

"Then of course you'd seen it somewhere before," was Pulling's tame rationalistic conclusion.

"No more than you'd seen Wesley before."

"But the cases are different. This of yours is only a face. At some time or another somebody with a face like the one that reappeared must have confronted you."

"But I have no remembrance of any such thing."

"It isn't necessary that you should remember. Such momentary recollections—now, *they* are suggested—are common. In books of psychology they call it hypermnnesia. Think a minute; have you never been in any situation where such an experience as that of the face could have happened to you?"

An idea that thrilled Raymond flashed upon him.

"I was in the house of—my friend—when that murder I told you of the other night was committed. But I was only a child."

"That doesn't matter. Gracious, of course—I have it. Why, man, it may have been the murderer you saw. You don't remember his appearance?"

"No."

Could Pulling be right? Raymond had no idea of his father's face, couldn't recall it, and Pulling's suggestion almost maddened him. The forest disappeared from his

sight. His memory was rushing to and fro amid the past like a wild creature seeking what it could not find.

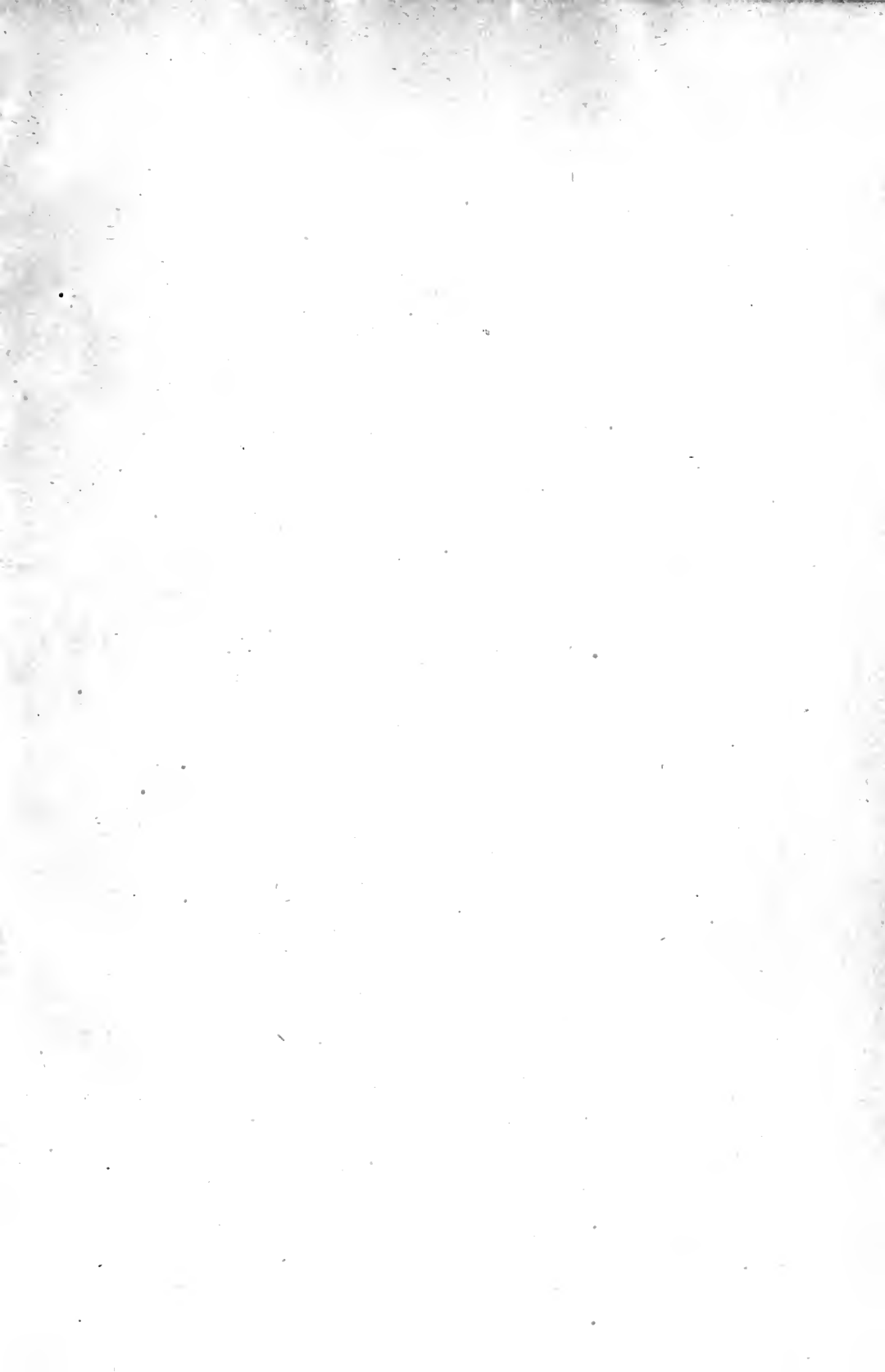
After a while Raymond heard :

"Say, Lee, Lee, do you hear me? To-morrow night, mind, we'll see if we can't get into that Fluke well. It means several thousands to Lawler if we can find out what she amounts to."

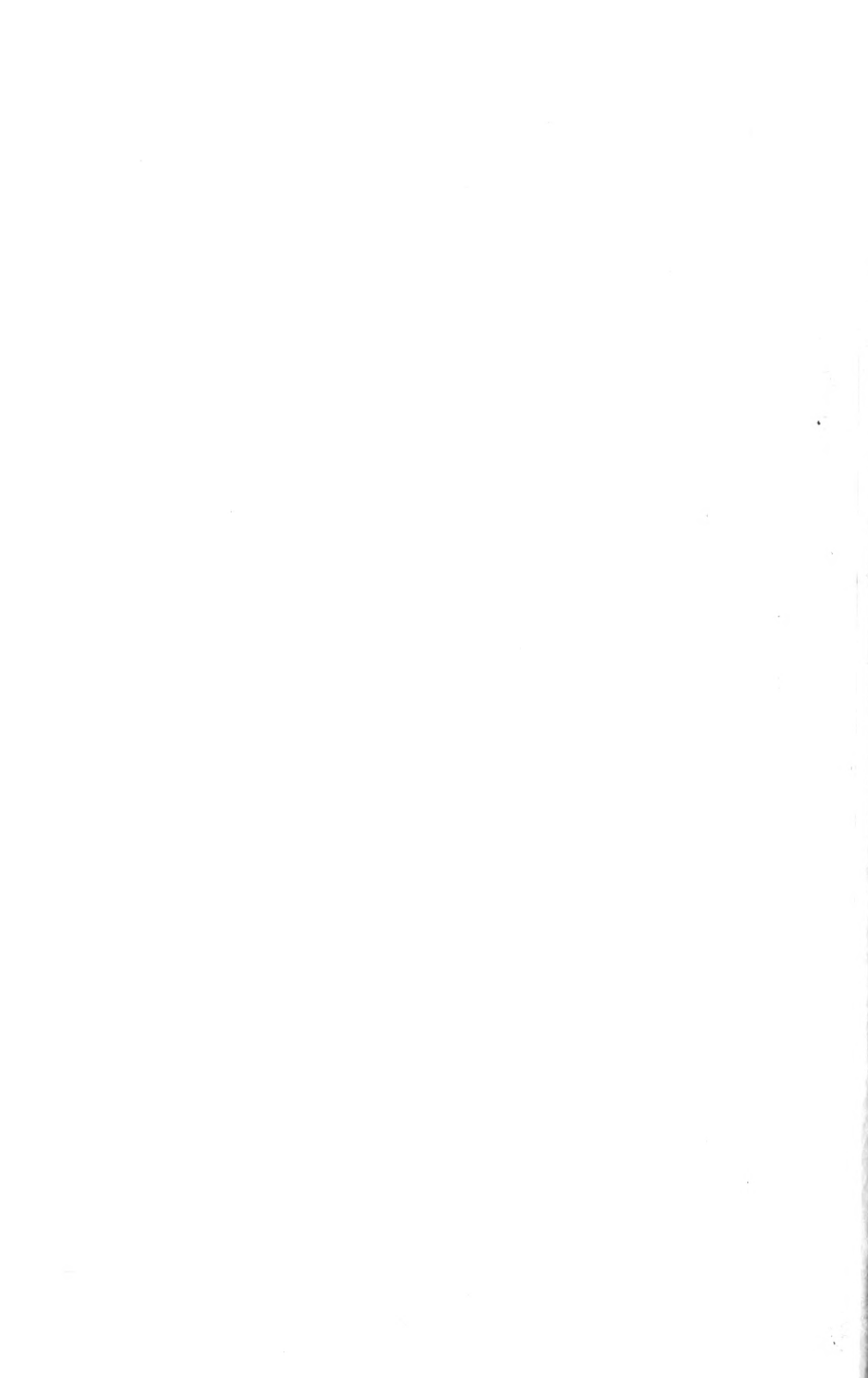
"All right," Raymond replied, vacantly.

To be continued.









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